

The research support needs and expectations of emerging researchers  
employed at the Cape Peninsula University of Technology's Faculty of  
Education: a case study.

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**COMPULSORY DECLARATION**

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## **ABSTRACT**

Providing research support services is an important role and function of an academic library. Nationally and internationally, academic institutions are under pressure to improve the quality and quantity of their research outputs. An important aspect in developing a research culture is the provision of effective research support services. As a young research institution, the Cape Peninsula University of Technology (CPUT) invests a lot of time, energy and resources in supporting the development of a research culture. A significant aim of research support services is the progression of emerging researchers to established researchers. CPUT Libraries wishes to play an active role in this regard by providing research support specifically to emerging researchers. The provision of effective research support services however requires services that are aligned with researchers' unique research support expectations. Without a clear understanding of the unique research support expectations of its researchers, the library will not be able to fulfil an effective research support function.

This study obtained a renewed understanding of emerging researchers' support needs through using a mixed methods approach and a case study research design, focusing on CPUT's Education Faculty. Emerging researchers' support needs were determined through a self-administered online questionnaire consisting of open- and close-ended questions. The research life cycle guided the design of the questionnaire. Online questionnaires were sent to all 37 emerging researchers employed in the Education Faculty. A total of 21 responses was received. Data about the perceptions of a group of four librarians and the Education Faculty's research coordinator about emerging researchers' most important support expectations were collected through a semi-structured focus group interview and an individual interview respectively. Data collected via the three data collection methods were triangulated to compare the differences and similarities in what was considered emerging researchers' most important research support expectations. The triangulation of the data led to the creation of a list of the most important research support services that should be provided for emerging researchers at CPUT's Faculty of Education. The results showed that researchers as well as research support providers regard information provision services as libraries' most important research support function. Recommendations by the researcher include the active marketing of libraries' research support services, personalised researcher training, closer cooperation between institutional research support providers and using the research cycle as framework when designing and promoting library research support services. Through the collection of data and the literature reviewed, this study reached an improved understanding of the research support expectations of emerging researchers at CPUT's Faculty of Education

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## **Abbreviations and acronyms**

B.Ed	Bachelor of Education
CPUT	Cape Peninsula University of Technology
DHET	Department of Higher Education and Training
DUT	Durban University of Technology
ESD	Education for Sustainable Development
EU	European Union
HEI	Higher Education Institution
NQF	National Qualifications Framework
NRF	National Research Foundation
RIN	Research Information Network
RLUK	Research Libraries United Kingdom
SWEDES	Swedish International Centre of Education for Sustainable Development
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
UoT	University of Technology

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## Chapter 1: Introduction

### 1.1 Research topic

This dissertation investigated the research support needs and expectations of emerging researchers at the Faculty of Education of the Cape Peninsula University of Technology (CPUT). The support needs of these researchers will be determined in the context of the kind of research support services this group of researchers expects from the library.

### 1.2 Introduction

For academic libraries to be able to provide relevant research support services, it is important to have a clear understanding of what the needs of their users are. Wiklund and Voog (2013:1) argued that academic libraries must continuously enquire about the needs and expectations of researchers in order to provide relevant research support services.

According to Wiklund and Voog (2013:2), research support services are the kind of services that ultimately help researchers to achieve successful research outputs. Furthermore, these authors identified the research support services that are generally offered by academic libraries according to the main components of the research process, as follows:

- **Starting a new research process:** these services include information provision on research funders and alerts for funding applications.
- **Collecting material and communicating results:** these support services include collection development, information provision and digitisation functions.
- **Processing, analysing and writing the research project:** services include training in reference management and in electronic research support tools.
- **Communicating results and making data available:** support services here include the provision of information and support relating to the publishing of research results such as open access, copyright, research evaluation, bibliometric analyses, institutional repositories and research data management (Wiklund & Voog, 2013:2).

Raju and Schoombee (2013:28) described research support from an academic library's perspective as "the provision of a new and expanded suite of services such as research data management, curation and preservation, facilitation of open access and bibliometric analysis."

From the above it is clear that research support services offered by academic libraries include traditional library support services such as collection development and information services. They also

include 'new' services such as the measurement of research impact (bibliometrics), advice about the various publishing options available, the curation and digitisation of research outputs and the management of research data (Raju & Schoombee, 2013:28).

Although academic libraries offer a vast variety of research support services it is important for them to continue consulting researchers about the kind of support they need in order to provide relevant services.

### **1.3 Background to the study**

The research described in this dissertation was implemented at CPUT's Faculty of Education, which has a complicated history, some of which is described in this section to provide context for the research problem that follows.

CPUT is one of six Universities of Technology (UoTs) in South Africa and is the only University of Technology in the Western Cape Province. The establishment of UoTs was the result of South Africa's efforts to restructure the disproportionate higher education landscape into a single, unified and more equal higher education sector. This restructuring process led to the Minister of Education's announcement in October 2003 that Technikons would now become Universities of Technology (McKenna & Powell, 2009:37).

Prior to this announcement, Technikons focused on "preparing students for a particular occupation or industry" and curriculums were oriented towards the promotion and transfer of technology and practice-related skills (Department of Education, 1997). Other changes at this time included the merging of many public higher education institutions, many of them Technikons and Education Colleges. These mergers resulted in the creation of three 'types' of institutions: traditional universities, hybrid comprehensive universities and universities of technology (Department of Education, 1997).

Universities of technology differ from traditional universities in that their main focus is to make knowledge useful through applied technological research (Hart & Kleinveldt, 2011:38). The former Technikons were characterised by their career-focused training which had an immediate relevance to the workplace with the aim to produce graduates who were "work-ready" (McKenna & Powell, 2009: 38). The former Technikons did not incorporate research as one of their institutional strategic objectives: "Historically, in South Africa, research and higher-based qualifications did not feature in



the organisational life of technikon education nor amongst its educators” (Mtshali & Sooryamoorthy, 2018:2).

Research production is therefore a fairly new strategic focus for the institutions that evolved from Technikons. Since 2003, with the restructuring of the Higher Education sector, Universities of Technology obtained a research mandate by being awarded the status of universities. This new research mandate obliged them to take the lead in applied technological research. Since then CPUT, as well as all the other UoTs in South Africa, have been investing much time, energy and human capital in efforts to promote the growth and development of its research landscape and research outputs (Chiwere & Skelly, 2016:1).

As mentioned earlier, this research was implemented at CPUT’s Education Faculty. Apart from the above-described transformation processes of the South African higher education sector which resulted in the establishment of Universities of Technology, the Education Faculty at CPUT underwent additional processes of transformation and change.

The Education Faculty at CPUT has a rich history of teachers’ training, stretching over many decades, under various institutional names and guided by various training legislations throughout its history. This history is illustrated by the following phrase by Chetty and Lubben (2010:814): “by the end of the apartheid era in 1994, the South African provision of teacher training was very complex: there were 19 education departments, 32 autonomous universities and technikons and 105 colleges of education.”

This complex reality existed because the teacher education system of the apartheid regime of South Africa was highly fragmented along “racial and ethnic lines” (Sayed, 2002: 383). In an attempt to deal with this highly fragmented system, the newly-elected government initiated a programme of rationalisation of teacher education colleges. With the exception of large multi-site institutions, this programme of rationalisation intended to have all colleges of education amalgamated with universities by 2001 (Sayed, 2002: 383). This resulted in the amalgamation of most teacher education colleges with either universities or with UoT’s (Sayed, 2002:386).

This restructuring processes resulted in the birth of CPUT’s Faculty of Education: In February 2001, when the Cape Town College of Education in Mowbray and the Boland College of Education in Wellington were amalgamated with the Cape Technikon, a new Faculty of Education at the Cape Technikon was created from this incorporation (Robinson & McMillan, 2006:3). As part of the

restructuring of the Higher Education sector, in 2005, the Cape Technikon amalgamated with the Peninsula Technikon to form the Cape Peninsula University of Technology. After this final amalgamation, the Faculty of Education remained located at the Wellington and Mowbray campuses, the sites of the former Boland and Cape Town Education Colleges (Giliomee, Joubert & Smith, 1996:104).

As with their parent organisation, these former Colleges of Education did not focus on research outputs. Traditionally, Education Colleges had “externally framed curricula and examinations” and therefore staff members focused all their energy on teaching (Braund, 2015:315). They were not expected to engage in research activities and therefore their staff never developed into established researchers (Braund, 2015:315). In becoming UoTs, formerly non-research-orientated institutions had to invest in research activities in order to meet the requirements of their newly-acquired university status (Johnson & Louw, 2014:151).

Robinson and McMillan (2006:329) explained how these realities were further complicated by a so-called ‘college versus university’ paradigm for teacher training which previously characterised the various teacher training institutions. Historically, the training of teachers at colleges followed a training approach that produced practically skilled teachers who were competent in the classroom. On the other hand, universities focused their training on the academic and intellectual preparation of future teachers (Robinson & McMillan, 2006:329).

The historical differences in the approach to teacher training that existed at the various teacher training institutions were also mentioned by Chetty and Lubben (2010:818). They stated that: “the notions of a university and its role in the scholarship of research were new to most of the teacher educators who had no previous university experience.”

All these aspects contributed to the fact that many Education Faculties in the new dispensation, especially Education Faculties at UoT’s, experienced an absence of a research culture (Robinson & McMillan, 2006:335): “One of the consequences of this policy of institutional amalgamations was the expectation that lecturers from former colleges of education should engage in research, in a way that was not part of their traditional workload before” (Robinson & McMillan, 2006:328).

Another important policy change that further affected the strategic focus of teacher educators at UoTs was the promulgation of the new Higher Education Quality Framework (Department of Education, 2007) This new framework raised the standard of the undergraduate teaching degree (Bachelor of

Education or B.Ed) from a National Qualifications Framework (NQF) Level 6 to a NQF Level 7. This meant that B.Ed degree programmes now offered by UoTs had to include a relevant research training component. This requirement placed an even bigger focus on research activities, forcing teacher educators in South Africa to adopt a research identity and culture (Chetty & Lubben, 2010:814).

Currently, CPUT's Education Faculty is the biggest provider of teacher education in the Western Cape, offering students a four-year B.Ed degree. Postgraduate qualifications offered include Honours, Master's and Doctoral degrees in Education (Cape Peninsula University of Technology [CPUT], n.d.a.). All of the postgraduate degrees offered by CPUT's Faculty of Education have a strong research focus, especially the Master's and Doctoral degrees that can only be achieved through the completion of full dissertations (CPUT, n.d.a.).

All of the above has resulted in research activities currently enjoying a strong focus at CPUT's Education Faculty, reflecting the focus of the institution as a whole. The establishment of CPUT's Research Directorate is another example of the institution's attempts to narrow the inherited research gaps and to establish a firm research culture. For the same reason, CPUT adopted a 10-year research and innovation blueprint in November 2012 which outlines and emphasises its research objectives and priorities. The vision of this research blueprint is to "unlock the potential of staff, students and partners to excel in research, technology and innovation that offers solutions to the needs of society." (CPUT, n.d.b.).

It is thus evident that research orientation and the creation of a research culture is not only an important strategic focus for UoT's, it is also of specific importance within their Faculty of Education. This is however not a simple objective to achieve as, "despite national and institutional pressures to be involved in research many teacher educators prefer to use the time to protect their pedagogical and pastoral role" (Robinson & McMillan, 2006:337).

Engelbrecht (2012:39) elaborated on the fact that excellence in teaching enjoyed a much higher priority in teacher education than that of excellence in research. According to Engelbrecht (2012:46), this prioritisation is a universal challenge for education faculties (Engelbrecht, 2012:46). Regardless of several institutional initiatives that have been adopted to foster a research focus amongst teacher educators, an imbalance remains between the time and energy spent on teaching and the time and energy spent on research initiatives (Engelbrecht, 2012:46).

An important indicator of the research culture within an institution and faculty is the number of established researchers they employ. According to the National Research Foundation (NRF), established researchers are researchers with “a sustained recent record of productivity in the field and who are recognised by their peers as having produced a body of quality work and who have demonstrated the ability to conceptualise problems and apply research methods to investigate them” (National Research Foundation, 2014:1). As a result of the challenges mentioned above, there are decidedly more emerging than established researchers employed at CPUT’s Faculty of Education, as time and the priorities of teacher educators have meant fewer researchers have a sustained research record.

A way to promote and establish a research culture at an institution is to invest time and energy in supporting emerging researchers to become established researchers. According to the NRF, emerging researchers can be defined as “young researchers who have held the doctorate or equivalent qualification for less than 5 years and who are recognised as having the potential to become established researchers within a five-year period” (National Research Foundation, 2014:1). Teacher educators are not only encouraged to spend more time and energy on the production of research outputs, but they are also encouraged to become established researchers.

#### **1.4 Research problem**

The historical disposition of UoTs, combined with the absence of a research culture at the previous Education Training Colleges, resulted in a ‘research gap’ at CPUT’s Education Faculty, where there are currently more emerging than established researchers.

The library at CPUT wishes to play an active role in supporting all research activities. In its 2018 strategic plan, the library stated that it aims to “enhance and develop the quality and effectiveness of the institution’s research and knowledge production” (CPUT Libraries, 2018:2). The two libraries serving CPUT’s Education Faculty at the Mowbray and Wellington campuses strive to support CPUT libraries’ aim to enhance the institution’s research production. One way to achieve this goal is by aligning their research support services to researchers’ research support needs.

Wiklund and Voog (2013:1) referred to these aligned support services as the provision of relevant research support services. They argued that it is not possible for an academic library to achieve the objective of providing relevant research support services if they do not understand the extent of the research support needed by (especially) their emerging researchers (Wiklund & Voog, 2013:1) The

delivery of relevant research support services to emerging researchers will contribute to their successful development into established researchers.

CPUT has a large number of emerging researchers whose research support needs have to be met by, among other entities, the library, in order to achieve the research objective of the institution. The unique history and background of the institution's Faculty of Education suggests that researchers within this faculty experience unique support needs. These research support needs must be identified.

### **1.5 Research objectives**

In order to address the problem outlined above, the research objectives of this study were:

- To determine what emerging researchers employed at CPUT's Education Faculty consider to be their research support needs. These support needs were investigated within the context of the kind of research support they expect from the library.
- To determine what CPUT's faculty and research librarians as well as the Education Faculty's research coordinator regard as emerging researchers' most important research support needs.
- To create a comprehensive list of the most important research support services that should be provided for emerging researchers at CPUT's Faculty of Education.

For the purpose of this study, emerging researchers included all the teacher educators at the Faculty of Education who had recently (within the past five to seven years) completed their Master's or Doctorate degrees and who wished to further their careers as researchers.

### **1.6 Critical research questions**

The primary question that this research attempted to answer was:

What, according to emerging researchers, librarians and research coordinators, are the research support needs of emerging researchers at CPUT's Faculty of Education?

The question was answered through gathering perceptions of all parties in order to create a comprehensive list of the most important research support services that should be provided for emerging researchers at CPUT's Faculty of Education.

## **1.7 Motivation for the study**

According to Schoombee (2014:2), “the elevation of research productivity in the new higher education research paradigm presents both challenges and opportunities for libraries.” The changing research landscape offers opportunities for the expansion and growth of library support services. At the same time, it challenges libraries’ ability to stay abreast of researchers’ changing support needs (Schoombee, 2014:2).

For academic libraries to be able to provide relevant research support services, it is important to understand their researchers’ support needs. Only then will they be able to adjust their services in accordance with their researchers’ true needs, thus contributing to the efficiency of the services offered. Schoombee (2014:2) however mentioned the difficulties involved in libraries’ abilities to determine their researchers’ needs, mostly due to researchers’ increasing tendency to work independently and to use library services remotely.

All of the above-mentioned aspects add to the difficulties involved in libraries’ abilities to understand the needs of their researchers. A further complication mentioned by Walker (2009:405) is that researchers across a variety of disciplines have diverse support needs. This reality should motivate academic libraries to discover the unique research support needs of a specific community of researchers within a diverse institution. Ideally, academic libraries should steer away from the tendency to create a ‘one-size-fits-all-solution’ in an attempt to deal with a broad community of researchers’ support needs across several disciplines (Walker, 2009 :405).

Researchers’ needs continue to change within the continuously changing research environment. Furthermore, it is evident that researchers across various disciplines at various stages of their respective careers have different sets of research support needs. Even though similar research projects have been implemented by academic libraries in the past, it is important for individual libraries to determine the support needs of smaller research communities.

Hence, this research project will attempt to gain an understanding of the research support needs of emerging researchers at CPUT’s Faculty of Education. An improved understanding of these needs will create an opportunity for the library to adjust its services to comply with researchers’ support needs. Improved proficiency of support services offered to emerging researchers will contribute to increased research outputs and the advancement of emerging researchers into established researchers.

## **Chapter 2: Literature Review**

### **2.1 Introduction**

The following literature review will explore scholarly publications on the topic of researchers' support needs, mainly from an academic library's perspective. Although the literature review will primarily focus on publications produced by South African authors, publications by African authors are also included. A number of international publications are also included. Due to the extensive number of international publications on this topic, only two countries' publications are discussed. Publications from Australia were selected to represent perspectives from institutions in the Southern Hemisphere whilst publications from the United Kingdom represent countries in the Northern Hemisphere.

Aspects discussed in the literature review include the following:

- Research at South African Higher Education Institutions
- Research in Teacher Education
- Researchers' support needs and expectations
- Research support services and the role and impact of academic libraries
- Related studies
- Conceptual framework

### **2.2 Research at South African Higher Education Institutions**

"Universities all over the world face critical challenges in trying to improve their research capacity and outputs" (Jita & Mokhele, 2013:127). This statement is confirmed by several authors who examined the status of research at tertiary institutions around the world. In an article on research support at Australian University libraries, Keller (2015:74) highlighted the fact that the Australian government regards research production as a strategically important issue. Keller (2015:74) explained how Australian politicians expressed their concern that Australian universities have not yet reached the top of International University rankings, quoting the National Treasurer of Australia, Joe Hockey, who expressed his concern in the following way: "How could we possibly be in a country that does not have one university in the top 20 in the world? That's unacceptable to me, it must be unacceptable to you" (Hockey, 2014).

World University rankings are annually updated listings of the top performing universities in the world. These ranking tools are used to evaluate higher education institutions' research success and impact (Bridgestock, 2017). As a result of the globalisation of the higher education sector there is an increased interest in university rankings. Ranking systems are used by higher education institutions as a

promotional tool to demonstrate their educational and research success. Highly rated institutions have a better chance to receive educational funding and to attract high-quality students and researchers (Aguillo et al., 2010:244).

There are a number of different world university rankings tools, including the QS World University Ranking, Times Higher Education World University Ranking and Academic Ranking of World Universities (Bridgestock, 2017). Each ranking tool uses a range of indicators to rank universities. The Academic Ranking of World Universities, for example, uses the following indicators to evaluate universities' performance:

- Quality of Education
- Quality of Faculty
- Research output
- Per capita performance (Academic Ranking of World Universities, 2018).

The Times Higher Education World University Ranking's performance indicators are grouped into the following five areas:

- Teaching: the learning environment
- Research: the volume, income and reputation
- Citations: research influence
- International outlook
- Industry income: knowledge transfers (Times Higher Education World University Rankings, 2018).

Finally, the six performance indicators used by the QS World University Rankings are:

- Academic Reputation
- Employer Reputation
- Faculty/student ratio
- Citations per faculty
- International faculty ratio
- International student ratio (QS World University Rankings, 2018).

The criteria used by the various university ranking bodies confirm the importance of research outputs in the evaluation of the academic status of tertiary institutions. Authors from the United Kingdom (UK) also highlighted the pressure that is placed on universities to improve their research performance and



outputs. The UK-based Research Information Network (RIN, 2010:5), for example, reported how research success is regarded as the most important success indicator of a university's performance and rating. O'Connell and Saunders (2013:356) described rankings as both "symptoms of, and accelerators for, cross-border educational competition and collaboration."

In the same way, universities in Africa and South Africa are expected to compete not only nationally but also internationally. Namuleme and Kanzira (2015:30) explained how success in research is regarded as the most important performance indicator at the universities of Uganda. South African Higher Education Institutions (HEIs) are under a lot of pressure to produce a high quality and quantity of research output. In a study that investigated the state of research in South Africa, Cloete (2014: 1358) indicated that South Africa is not performing to its full potential when it comes to research productivity, saying that, "while South Africa is still the top knowledge producer in Africa, other countries – particularly Nigeria and some countries in North Africa – are catching up."

All of the above-mentioned authors agree on the importance and focus placed on HEIs' ability to increase the quality and quantity of their research outputs. In South Africa, the achievement of research-related objectives is further complicated by the inherited inequalities and the subsequent transformation of the higher education sector. A number of authors (Braund, 2015; Cele & Lekahnya, 2014; Engelbrecht, 2012; Hart & Kleinveldt, 2011; Jita & Mokhele, 2013; Johnson & Louw, 2014; McKenna & Powell, 2009) have written about the transformation of South Africa's Higher Education sector and the founding of Universities of Technology in 2004.

A seminal work on the research capacity and research potential of Universities of Technology by Du Pré (2006:4) provided insight into the unique research character of Universities of Technology. Du Pré argued that the research focus of UoTs should be on applied research in order to distinguish themselves from research-intensive universities. He urged UoTs to invest in the development of academic staff's research capacity and highlighted the importance of UoTs' sustained pressure on researchers to produce quality research outputs that would make meaningful contributions to the national research agenda (Du Pré, 2006:4). In a later publication on the state of research at South African UoTs, Singh (2011:1190) confirmed that UoTs are indeed striving to achieve the above-mentioned research goals as, "at universities of technology, there is now a very strong focus on applied research, the development of research capacity, postgraduate qualifications and published research."

A research study undertaken by Cele and Lekhanya (2014: 465) at the Durban University of Technology (DUT) in South Africa examined the research output level of their institution. The study highlighted the difficulties that UoTs in South Africa are experiencing in achieving their research output targets. They mentioned that over the past 10 years, DUT produced fewer research outputs than the Department of Higher Education's (DHET) recommended research targets. South Africa's DHET sets targets for universities' research outputs according to an expected number of peer reviewed publications in journal articles, conference proceedings and scholarly books. Cele and Lekhanya (2014: 465) identified the following factors that contributed to DUT's inability to reach their research targets:

- lack of research knowledge,
- lack of time,
- budget constraints, and
- absence of knowledgeable research support staff.

The above-mentioned scenario had been mentioned by Singh (2011:1191) who explained that South African UoTs are lagging behind traditional universities in terms of publications in peer-reviewed or subsidy-generating journals. In a more recent publication, Singh and Zheng (2014: 255) elaborated on this aspect when they highlighted the fact that South Africa's transformation of technikons into UoTs created a serious research skill shortage. According to them, UoTs lacked research skills and research outputs because technikons did not regard postgraduate qualifications and published research outputs as of great importance (Singh & Zheng, 2014:255).

Hart and Kleinveltdt (2011:38) confirmed that "research outputs in the form of scholarly publications" play a central role in UoTs' attempts to achieve their research goals. They alluded to the fact that all six of the South African UoTs fall within the 10 lowest ranked South African universities. Although South Africa does not have its own ranking system, South African universities are ranked by the most prominent World University rankings which include the QS World University ranking, the Times Higher Education World University Ranking and the Shanghai Index (Jansen, 2018:15).

Nationally, decision-makers in the higher education sector are questioning the value and relevance of South African universities being ranked with international universities. Nevertheless, Jansen (2018:15) urged South African universities to use global ranking systems to their advantage: "Rankings can reveal areas in which a university can grow and improve on its scholarly work. This knowledge can be used to strengthen the capacity of universities to produce top quality scholars who publish in learned journals of significance to science and society" (Jansen, 2018:15).

Ntshoe and Selesho (2014:1554) explored the dynamics and dilemmas of institutional ranking in South Africa writing that, “the rise of university ranking systems has generally created anxiety among higher education institutions (HEIs), and created a ‘reputation race’ in which institutions strive to be placed higher up in the university charts year on year” (Ntshoe & Selesho, 2014:1554). They confirmed how the term ‘institutional ranking’ is explicitly or implicitly used when discussing the performance of South African universities. In line with international practice, Higher Education Institutions in South Africa are thus also ‘ranked’ and compared according to criteria pertaining to the institutions’ research performance and the quality of its research outputs. They emphasised how the ranking systems’ focus on research outputs makes it difficult for South African UoTs to compete with research-intensive universities (Ntshoe & Selesho, 2014:1553).

Singh and Zheng (2014:254) confirmed that Universities of Technology are under pressure to increase their research performance and outputs. Several authors (Cele & Lekhanya, 2014; Hart & Kleinveldt, 2011; McKenna & Powell, 2009) concurred that an important reason for UoTs’ underachievement in research outputs relate to the fact that South Africa’s leading research universities are all historically advantaged institutions. These universities inherited well-established research infrastructures and reserves which makes it difficult for UoTs to compete with them.

Regardless of the challenges, CPUT has witnessed a growth in its research outputs. Chiware and Mathe (2015:2) reported a steady growth in CPUT’s research output – especially in the Applied Sciences and Engineering Faculties. According to them, the increase in CPUT’s research output was a result of “sustained and coordinated efforts to grow the institution’s research profile” (Chiware & Mathe, 2015: 2). The efforts that were mentioned included the following:

- The implementation of strong research governance systems,
- An increase in research funding,
- The recruitment of highly skilled academic staff,
- The development of research structures,
- The appointment of several top-rated researchers as Departmental Research Chairs,
- Institutional participation in international research programmes, and
- The mentoring of emerging researchers (Chiware & Mathe, 2015:2).

Chiware and Skelly (2016:5) confirmed the above-mentioned increase in CPUT’s research output. They reported that especially the faculties of Applied Science and Engineering achieved a sustained increase

in research output. They concluded that researchers in the science and technology disciplines at CPUT have accepted and embraced their research mandates. This was evident from these disciplines' contributions to scholarly literature over the past 10 years. The authors (Chiwere & Skelly, 2016), grounded their conclusions on a bibliometrics analysis which showed a 300% increase in articles published in the Engineering and Applied Science Faculties from 2005 to 2014 (Chiwere & Skelly, 2016:4).

The discussions above confirm that research outputs at South African universities are influenced by the historical context and strategic focus of institutions. The discussions also explain how different faculties within the same institution vary in their research character and productivity.

### **2.3 Research and Teacher Education in South Africa**

Since this dissertation is based in CPUT's Education Faculty, it is important that the literature review also concerns itself with the state of research in Teacher Education in South Africa and other countries. According to Winburg, Jacobs and Wolff (2017:22), "writing for publication is essential for disseminating research findings, sharing initiatives and innovations with others, and developing the knowledge base of intellectual fields." For this reason, academics in South Africa, and worldwide, are facing increasing pressure to publish. In the same sense, the growing emphasis on research output is a reality for teacher educators at South African academic institutions (Winberg, Jacobs & Wolff, 2017:23). According to the literature, teacher educators are often unfamiliar with academic research practices as will be discussed below.

As discussed in chapter 1 and as described further by Jita and Mokhele (2013:126), the inclusion of teacher education programmes at South African universities contributed to Education Faculty members' non-research-oriented professional identities because teachers had mostly been trained at Colleges of Education, which lacked a research focus.

Chetty and Lubben (2010:819) emphasised that university faculty members would need support in dealing with these shifting identities of teacher and researcher. They reported how academic staff at the Faculty of Education at CPUT perceived their new research roles as unfamiliar, unnecessary and sometimes even as threatening. Hill and Haig (2012:971) confirmed that the development of a research culture alongside the demands of teaching and professional involvement in schools is an international challenge experienced by teacher educators around the world. Hill and Haig (2012: 972) listed the following reasons for teacher educators' struggle to incorporate a culture of research:

- A lack of formal qualifications in research,
- Fear and anxiety about writing,
- A lack of time, funding, experience and support for research,
- Non-availability of senior research colleagues for support and mentoring,
- The absence of a research culture, and
- Teacher educators seeing themselves as professional practitioners rather than as academics or professional researchers.

Braund (2015:319) confirmed that the acceptance of a culture of research is still a problem for teacher educators: “Taking on scholarship and the role of a researcher in a higher education context has been cited as the most pressing concern of many newly appointed teacher educators” (Braund, 2015:313).

Many previous studies on the topic of research in teacher education agree that it is important for Higher Education institutions to make a concerted effort to develop a research culture and to build the research capacity of teacher educators (Braund, 2015; Chetty & Lubben, 2010; Jita & Mokhele, 2013). Engelbrecht (2012: 48) concluded a research article on this topic with the following comment: “Developing a research culture in Faculties of Education requires deliberate, intensive and sustained efforts that can contribute towards the development of supportive research communities.” Hill and Haig (2012: 979) listed the following strategies that institutions could implement to improve Education Faculties’ research capacity:

- Building research cultures,
- Establishing communities of research practice,
- Learning to be a researcher through involvement in research work,
- Providing institutional support for research activity and learning, and
- Addressing or acknowledging impediments and challenges in building research capability (Hill & Haig, 2012: 979).

The earlier-mentioned study by Braund (2015:326) concluded with a recommendation regarding the professional identities of teacher educators as researchers: “South African B.Ed. teaching degrees require a sizeable research training component for students which presents another reason why teacher educators will have to be increasingly research-aware and literate, if not active researchers themselves” (Braund, 2015: 324).

According to the consulted literature, teacher educators, and specifically those employed at Universities of Technology, need to understand the importance of research within the current higher education context. The literature states that by gaining a renewed understanding of the value of research, teacher educators will embrace their research roles as an integral part of their professional identities. The literature further suggests that researchers, especially early career researchers, need to be supported on their research journeys to establish themselves as researchers, hence, the following section deals with the literature around researchers' specific research support needs and expectations.

## **2.4. Research support needs and expectations**

In a publication by Webb, Gannon-Leary, & Bent (2007:2), research is described as the discovery and communication of knowledge. Hart and Kleinveldt (2011:37) emphasised the creative aspects of research by defining it as a creative work that is undertaken on a systematic basis with the aim to increase knowledge. Hoffman (2016:14), on the other hand, preferred a very concise definition describing research as the pursuit or creation of new knowledge. Daland and Hidle (2016:17) described research as an activity that is deeply founded in previous research with the main objective of bringing forth new knowledge.

After having clarified the definitions for research, it is important to look at what the literature describes as 'research support'. Daland and Hidle (2016:17) argued that the term 'research support' is difficult to define since it can imply many different facets. They described research support as the services that enable researchers to spend more time on research and less time on administrative tasks. From a library's perspective, they further narrowed their definition of research support by describing it as those services that may increase the efficiency of research. Hoffman (2016:14) confirmed the above definition for research support by affirming that, within a library context, the term refers to everything that a library does to support scholarship and research.

Parker (2012: 2) explained how the concept 'research support' often causes confusion in terms of roles and responsibilities. She explained that the reason for this 'confusion' is because academic institutions often have a number of different research support structures that contribute towards the delivery of a research support service. Consequently, it is important for academic libraries to build mutually beneficial relationships with the various institutional support structures or departments such as research offices and faculty administrators (Parker, 2012:6). Finally, Parker defined research support

services, from an academic library's perspective, as the services that libraries offer in assisting to increase the productivity of research and scholarship.

Wiklund and Voog (2013:76) described research support services as the strategies and techniques that libraries develop to save researchers time by doing some of their work for them. By studying the literature, it becomes clear that, in higher education institutions, research support services refer to the services that are offered to assist researchers in the efficient execution of their research tasks. The literature reporting on research support services agrees that by supporting researchers in the successful completion of their research tasks, libraries are contributing towards an improved competitive ranking of their institutions.

In order to provide efficient research support services to researchers, it is important for support structures to determine exactly what kind of support researchers require. This brings the discussion to the next important concept, which is that of research support needs. Mamtora (2013:353) highlighted the importance of understanding the support needs of researchers and emphasised the importance of the ability of institutions to provide support services according to researchers' true support needs. The significance of the continuous assessment of researchers' needs is underlined in the following quote: "Regular communication with researchers and the continuous assessment of their needs will help the library play a critical role in the success of their researchers' endeavours" (Mamtora, 2013: 369).

Auckland (2012:32) highlighted the diversity of researchers' support needs. She explained that researchers have a variety of support needs that differ depending on their disciplines, the stage of their careers and the stage of the specific research project that they are working on. Hoffman (2016:14) agreed by stating that researchers have "increasingly sophisticated needs varying from methodological and analytical support to data management and research dissemination." Schoombee (2014:3) explained how the ever-changing research environment results in researchers' support needs being dynamic and constantly changing. Finally, Wiklund and Voog (2013:2) advocated for proactive research support services based on the dynamic and anticipated support needs of a specific community of researchers.

An investigation, conducted by Auckland (2012:1) on behalf of the Research Information Network (RIN) for research libraries in the United Kingdom, identified a number of cases where researchers within different disciplines had varying support needs. It was discovered, for example, that: "Science

researchers are more likely to use digital repositories while mathematicians and computer scientists are more predisposed to archive their own material. Social scientists on the other hand are more reluctant to use new technologies” (Auckland, 2012:13). These differences between the researchers within different disciplines determine the type of research support services they need.

From the above-reviewed literature, it is clear that in order for libraries to provide relevant research support services it is of utmost importance that they stay in touch with their researchers’ changing support needs. If they wish to play a vital role in the rendering of research support services, libraries need to be aware of the dynamic, ever-changing and unique nature of researchers’ support needs. Mamtara (2011: 101) reminded libraries to communicate regularly with their researchers in order to determine their changing research support needs. For this reason, Tise, Raju and Adam (2015:8) advised libraries to measure continuously the research support services that they offer against their researchers’ actual needs. They emphasised that it is time for academic libraries to take a fresh look at their role in supporting research.

## **2.5 Research support services and the role and impact of academic libraries**

In an article on library research support, Carroll (2011:1) explained how the global emphasis on quality research output has urged research support departments, especially academic libraries, to strengthen and to expand the research support services they offer. In a later publication, Corral (2014:17) confirmed how, internationally, academic libraries are rethinking the research support services they are offering. The following quote by Corral (2014:17) explains the paradigm shift with which academic libraries are faced:

Advances in technology and changes in higher education and research are forcing libraries to rethink the services they offer to researchers and how they are presented. Librarians are moving into ‘higher end support’ and adopting new service models based on ‘deep collaboration’ with academic partners.

The discussion below will provide details on academic libraries’ strategies to deal with the above-mentioned service extensions and paradigm shifts as well as libraries’ impact on their institutions’ research successes.

In a study on the impact of library support on an Education Faculty’s research productivity, Hollister and Schroeder (2015: 98) reported that research productivity is an economic issue. The reason for this statement is that greater research productivity results in institutions receiving additional external funding. Research productivity contributes towards institutions’ academic ranking which, in turn, impacts on student enrolment and staff recruitment (Hollister & Schroeder, 2015:98). From an



individual's perspective, research success correlates with an individual's professional advancement and job security. For these reasons, Hollister and Schroeder's study emphasised the importance of academic libraries' ability to cement their role as essential partners in an institution's research enterprise.

In addition, Hollister and Schroeder (2015: 98) discussed the evolution of academic libraries' research support services over the past decade. They stated that, in the past, libraries' research support to Education Faculty members had focused primarily on collection development and on the provision of information services. Apart from providing information support, Hollister and Schroeder (2015:106) identified the following evolving support services in which Education Faculty researchers indicated they could benefit from greater library support:

- Grant applications,
- Bibliographic management,
- Selection of traditional and alternative publishing venues,
- Intellectual property management,
- Assistance in increasing researchers' visibility and professional status,
- Data management, and
- Promotion and tenure support (Hollister & Schroeder, 2015:110).

Atkinson (2016:135) provided an overview of academic libraries' research support services across various faculties stating that, apart from an increased focus on research, technological developments had also contributed to the fact that library support for research is at a crossroads. For this reason, Atkinson urged academic libraries to expand the research support services they offer. He suggested that libraries include the following services in order to support researchers throughout the various stages of the research life cycle:

- Idea development – support in identifying research gaps for future studies;
- Seeking funding – assistance in identifying potential funders for research;
- Proposal writing – assisting researchers with research proposals;
- Carrying out research – including advice regarding copyright and data management;
- Dissemination – including institutional repositories and data curation services; and
- Publication – including support in measuring research outputs and impacts (Atkinson, 2016:138)

Bruxvoort and Fruin (2014:20) provided examples of the various types of research support services that are already offered by academic libraries. Examples of extended services that academic libraries might consider include:

- Document delivery services,
- Training on how to conduct literature searches,
- Provision of bibliographic services,
- Management of researchers' scholarly identity through ORCIDs,
- Assistance with uploading publications to the institutional repository,
- Assistance with copyright issues, and
- Connecting researchers to potential collaborators

In addition to the lists of research support services mentioned in the examples above, Raju and Schoombee (2013:28) described research support services offered by academic libraries as “the provision of a new and expanded suite of services.” They mentioned the following services as examples of these new and expanded research support services that academic libraries should offer:

- Research data management support,
- Data curation and preservation services,
- Facilitation of Open Access practices, and
- Bibliometric analyses to improve the visibility of researchers' output (Raju & Schoombee, 2013: 29).

The above lists provide an overview of current, potential and evolving research support services offered by academic libraries internationally. All of the services that were mentioned by the various authors correspond with the list of research support services that Hollister and Schroeder (2015:106) specifically suggested for libraries within an Education Faculty context.

A number of publications focus on the impact and value that academic libraries' research support services have on the success and productivity of their institutions' research outputs. An important example of these kinds of studies include the United Kingdom's RIN and RLUK report. In 2011, the Research Libraries of the United Kingdom (RLUK) and the Research Information Network (RIN) were commissioned by their members to execute a systematic study on the value of services that research libraries in the UK provide to their researchers. They were also commissioned to investigate libraries' contributions towards an institution's research performance.

The research findings of RIN and RLUK's investigation were based on large amounts of qualitative data gathered from interviews with important stakeholders such as researchers, research support staff, librarians and financial directors (RIN & RLUK, 2011:4). The report's findings thus described the qualitative value that libraries have in supporting both individual researchers and the research performance of their host institutions. The study listed the following examples of ways in which libraries contribute towards their institutions' research production (RIN & RLUK, 2011:6):

- Libraries assist researchers with grant applications which impacts on the research grants and contracts that are awarded to institutions;
- Through libraries' promotion and exploitation of new technologies, institutions are able to explore and use new models of scholarly communication;
- Library repositories assist an institution to improve its researchers' visibility and research profile, which impacts positively on the institution's research reputation;
- Easy access to high-quality content in terms of library collections and holdings is a key foundation for good research; and
- Libraries are physical manifestations of the values of academia and of scholarship.

Delaney and Bates (2015:32) contributed towards the sector's reflection on the relevancy and relationships of a modern day academic library. They agreed with earlier publications' emphasis on academic libraries' ability to extend their roles from supporting learning and teaching to fostering learning and research. They advised that libraries should be less library-centred and more user-centred saying that, "Academic libraries need to respond more accurately to their users' needs and develop capabilities to build better profiles of their users through continual needs analyses" (Delaney & Bates, 2015:32). They claimed that academic libraries' real challenge lies in maintaining relevancy through continuous and meaningful communication with their researchers.

Wiklund, Voog and Kjellberg (2017:253) agreed with all the previous authors who emphasised the importance of libraries being proactive in meeting their researchers' support needs. They highlighted that libraries need to develop research support services that are based on a true understanding of researchers' support needs and expectations. They advocated for the importance of libraries' ability to steer their support services in the direction determined by their research community and not in the direction of the librarians' notions of researchers' support needs. They used the research life cycle as the framework that directed the project's objectives to achieve a better understanding of researchers' support needs (Wiklund, Voog & Kjellberg, 2017:253).

In the reviewed literature above, the importance of a library's ability to understand its researchers' support needs is mentioned repeatedly by a number of authors. Even the publications that focus on aspects other than these needs make a point of mentioning an understanding of them as the crux of the matter. The literature confirms that academic libraries should make a concerted effort to determine their researchers' support needs as the first step in their pursuit to provide relevant research support services. The importance of academic libraries' ability to stay in touch with the community of researchers that they wish to support forms a golden thread throughout the literature.

Hence, this dissertation is particularly interested in creating a renewed understanding of the research support needs of the researchers within CPUT's Education Faculty. As mentioned, it is important to realise that a needs analysis of a community of users is not a once-off endeavour that will result in a 'one-size-fits-all' solution for the broad sector. On the contrary, if libraries wish to provide relevant support services to their researchers, they need to embark on a journey that leads towards a better understanding of the needs of their researchers. The next section of the literature review will be looking at similar studies to this one that were implemented earlier and in different contexts. These related studies were used to inform the methodology of this study.

## **2.6 Related studies**

Three studies have been identified as being closely related to this one. They were implemented by Kleinveldt (2009), Schoombee (2014) and Nel (2015). All three studies embodied recently published research that explored the efficiency of the research support services of academic libraries at South African Higher Education Institutions.

Kleinveldt (2009) investigated the use and expectations of academic staff across all six faculties at CPUT in relation to the library and their research production. Her research questions focused on the following aspects (Kleinveldt, 2009:24):

- The kind of research conducted at CPUT,
- The extent and patterns in which academic staff use the library,
- Academic staff members' perceptions of the library's role in research production, and
- The library services that researchers regard as contributing to their research and also those that they regard as hampering their research work.

Kleinveldt researched aspects related to the research support services provided by CPUT's libraries. Her study identified the library services that researchers regard as most successful in supporting their

research tasks. Kleinveldt also investigated researchers' perceptions of the library and its role in the successful completion of the research process. The research methods used for data collection included a questionnaire addressed to CPUT's academic staff as well as a semi-structured interview with the research librarian at the CPUT libraries. The conceptual framework that underpinned the research project was the interrelated concepts of learning societies and knowledge societies (Kleinveldt, 2011:22).

An important aspect of Kleinveldt's research and the one that CPUT's researchers listed as a priority in terms of library support is the expectation that the library must keep up with their ever-changing research support needs. This need was identified through the questionnaire (Kleinveldt, 2009:51). Another recommendation that stemmed from Kleinveldt's research was that a similar study should be conducted with a smaller sample of researchers at CPUT in order to provide more depth to the research findings (Kleinveldt, 2009: 61).

The second study that is closely related to this dissertation is a research project that was steered by Schoombee in 2014. Her research attempted to determine the support needs of researchers across all faculties at the University of Stellenbosch. Another objective of her study included the identification of opportunities for collaboration among research support stakeholders. As data-collection method, Schoombee used an interactive visual poll in the form of a large pin board. This method represented a unique but creative and systematic method for determining researchers' support needs (2014:1).

Schoombee used the research life cycle as the framework for the project's design. According to Schoombee (2014:3), the research life cycle provides an ideal model for the identification of researcher activities and their corresponding research support needs. The research cycle as a framework for this study will be discussed in section 2.7 of this chapter.

The research methodology that was used for Schoombee's study included focus group interviews with researchers as well as the above-mentioned visual display that solicited intuitive feedback from researchers. The visual display consisted of a large pin board that depicted the research life cycle as well as the research activities associated with each stage of the research cycle. Respondents were invited to use the pin board to indicate the various obstacles that they experience during the research process (Schoombee, 2014: 4).

Schoombee's (2014) research project is an example of the innovative methods that academic libraries can use to gain insight into their researchers' needs. At the same time, the project revealed the most important challenges that researchers experience during the various stages of a research project. Schoombee (2014:11) concluded her publication with the following statement: "in a compelling and demanding research context, it is critical for academic libraries, along with research support divisions to examine current services for researchers and to upscale them according to new trends and demands." Schoombee's study highlighted the importance of academic libraries' abilities to respond accurately to researchers' demands and expectations.

The last study identified as closely related to this study is a research project that was implemented by Nel (2015) at the University of Pretoria. The aim of his study was to determine the information needs, the information seeking behaviour as well as the information use of veterinary researchers and how these needs are met by the library. The rationale for the study was grounded in the fact that libraries usually have a notion about the research support they should provide. The question however is whether the support provided by libraries does indeed meet their researchers' complex and dynamic information and research support needs (Nel, 2015: 4).

The research methods that were used to collect data for Nel's project included questionnaires, focus groups interviews, citation analysis and the interpretation of LibQual results. The framework that guided the research was developed from a variety of information seeking models, including Khulthau's 'Information Search Process Model' (Nel, 2015:74).

Although the study by Nel (2015) focused on veterinary researchers' information needs and their information seeking behaviour, it provided valuable insights into the current research agenda and researchers' subsequent research support needs. Besides the results that focused on researchers' information needs, results from the questionnaires also indicated what type of research support they expected from the library (Nel, 2015:154).

The three above-mentioned research projects are closely related because their investigations, just as this study's investigation, focused on researchers' support needs and expectations of their academic libraries. None of them however investigated the research support needs of early career researchers or were based in an Education Faculty, which confirms the relevance of this study. The literature stresses the importance of a context-specific analysis of researchers' support needs. In addition, the

literature emphasises the importance of research support services' continuous assessment of researchers' support needs.

## **2.7 Conceptual framework**

In an article on research support strategies for university libraries, Corral (2014:18) highlighted how important it is for academic libraries to provide: "point-of-need research support and advice around the whole knowledge creation cycle." Literature that likewise reports on the topic of research support services refers to the 'knowledge creation cycle' as the 'research life cycle.'

Vaughan et al. (2013:310) reported on the value of using the research life cycle in developing library support services. Their study determined how the research life cycle can be used as an ideal service model for libraries when designing services that will support researchers. The stages of the research life cycle model they used were: idea development, funding applications, proposal writing, conducting research and disseminating results (Vaughan et al., 2013:312).

Mamtora (2013:356) made the following statement regarding research support within the frame of the research cycle: "The research librarian's role has transformed to the extent that it is required to provide research support at each stage of the research cycle." Schoombee (2014:3) agreed with Mamtora's statement as is evident in the following quote: "The research cycle provides an ideal model to map the various research activities from the development of an idea to the dissemination of the research results" (Schoombee, 2014:3).

According to Mamtora (2013:356), the research life cycle in its simplest form has four main elements namely idea discovery, funding approval, experimentation and results dissemination. The literature however mentions the inclusion of additional elements to those listed by Mamtora (2013:356). Schoombee (2014:3), for example, included six phases in the research life cycle model used in her study namely: ideas and planning, gather, create, manage and preserve, share and collaborate and measure. The various stages of the research cycle will now be further discussed.

The research life cycle was used as a conceptual framework that guided the design and structure of the data instruments used for this study which included a questionnaire and two interviews. The research life cycle model that was used derived from a combination of various research life cycle models available in the literature:

- OCLC- Model (Kroll & Forsman, 2010)

- UN-CH Model (Vaughan et.al.2013: 310 – 314)
- JISC Model (JISC, 2013)
- RIN-Model (RIN, 2010: 9-11)
- University of Stellenbosch model (Schoombee, 2014: 1- 14)
- Cape Peninsula University of Technology models (CPUT, n.d.d.)

Pasipamire (2015:65) stated that the research life cycle assists libraries in providing support when it is needed by researchers at the various stages of their research projects. Raju and Schoombee (2013: 32) remarked that the changing research landscape requires academic libraries to view themselves as active partners in all aspects of the research life cycle. It is within the research life cycle that library services intersect with the various research activities and where the potential for new services can be identified. Parker (2012:8) advised academic libraries to examine their research support services within the framework of the research life cycle.

It is evident from the literature that scholars agree about the relevance of the research life cycle model in providing a framework for the assessment of researchers' support needs and in guiding the development of support services across the research cycle continuum. Hence, the above references confirm the suitability of using the research life cycle model as conceptual framework, which this study has done by using a combination of the various life cycle models listed above.

The stages that were incorporated in this life cycle included the following five stages: ideas and planning; information gathering; research process; dissemination; and measuring. These stages were used as a guide to what support services are being or could be used by emerging researchers. The questionnaire (described in section 4.2) relied on the stages of the life cycle as an appropriate framework to map all possible activities associated with the research process from the initial investigation to the final dissemination of the research output. It is possible that early-career Education researchers will have different needs associated with each stage of the life cycle than those of the researchers investigated in previous studies.

## **2.8 Conclusion**

What is clear from the literature is that researchers are not a homogeneous group. Their activities, discourse, approaches to research and their information needs differ, in particular in relation to their discipline and the stage of their career (Auckland, 2012: 13).



The above quotation supports the idea that researchers in different disciplines behave differently and experience different needs and that researchers at different stages in their careers experience different support needs. Similarly, this is confirmed in the recommendations and conclusions of many research initiatives that were discussed in this chapter. For this reason, it is useful for academic libraries not only to investigate the research support needs of a specific faculty's researchers, but also to investigate the research support needs of researchers within a specific stage of their research careers. In order to provide relevant support services to researchers, academic libraries must stay well informed of their researchers' ever-changing support needs. The research related challenges experienced at UoT's Education Faculties (described earlier in this chapter), emphasises the importance of libraries' understanding of their researchers' needs to ensure the provision of relevant research support services.

## **Chapter 3: Research methodology**

### **3.1 Introduction**

This section of the dissertation focuses on the research processes followed, including details about the research approach, the research design and data collection methods. Ethical considerations of the study will also be discussed.

### **3.2 Research Approach**

This study used a mixed methods research approach. A mixed methods approach uses both quantitative and qualitative methods to collect and analyse research data. According to Joyner, Rouse and Glatthorn (2012:73), a quantitative research approach collects and expresses numerical data whilst a qualitative research approach collects, explains and records the perceptions of individuals. Delport et al. (2011:65) defined a qualitative research approach as: “an approach that is used to answer the complex nature of phenomena from the participants’ point of view.”

The combined use of quantitative and qualitative methods within a single study is an attempt to understand a research problem in its totality. Mixed methods research collects numeric (quantitative) data as well as textual and spoken (qualitative) data, concurrently or in a sequence to gain an enhanced understanding of the phenomenon that is investigated (Maree, 2016:313). A mixed methods research approach not only involves the collection of quantitative and qualitative data, it also involves the mixing and integration of it during analysis (Maree, 2016:313).

A mixed methods research approach often contains an aspect of triangulation. According to Bryman (2003:131), triangulation involves the use of more than one method of investigation and more than one type of data to enhance the validity of the research findings. Miller (2008:327) defined triangulation as “the combination of different methods, perspectives or theoretical viewpoints. The type of triangulation most commonly found is some combination of ‘quantitative’ and ‘qualitative’ approaches.”

According to Leedy and Ormrod (2010:99), “triangulation is common in mixed methods designs in which both quantitative and qualitative data are collected to answer a single research question.” By comparing and contrasting the different findings, a more complete and well-validated set of conclusions are reached (Delport et al., 2011: 436). Later in this chapter, triangulation as well as data analysis processes and principles will be discussed in more detail.

This study used a mixed methods approach because of its potential to answer the research question more completely than a purely qualitative or quantitative approach.

### **3.3 Research design**

According to Mouton (2006:55), a research design refers to the “plan or blueprint of how the research project will be conducted.” Rowley (2002:18) described a research design as “an action plan for getting from the questions to the conclusions.”

This study used a case study research design. Case studies are regularly used in the social sciences for their potential to provide insights into complex, real-life situations. Farquhar (2012: 5) defined a case study as “an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context.” An empirical inquiry involves the collection and analysis of data that investigates a real life problem or situation (Farquhar, 2012:5).

According to Rule and John (2011:7), one of the most important reasons for social researchers’ selection of a case study design is its potential to generate an understanding and insight into a particular situation, organisation, or event. Lechman (2014:21) stated that a case study approach is useful because of its potential to provide a holistic and in-depth analysis of a phenomenon within a real-life context. Case study research design allows a combination of qualitative and quantitative research approaches (Dawidowicz, 2011:10).

A case study design enables the researcher to investigate a research question within a focussed setting but from different angles and perspectives, often providing insight into similar cases (Rule & John, 2011:7).

Rule and John (2011:7) regard the following as case studies’ strengths:

- Depth – the ability to examine a particular phenomenon in great depth
- Flexibility – in terms of the determination of the unit of analysis and of the methods that can be used for data collection and analysis
- Manageability – because of the bounded nature of cases

A final advantage of case study research is its potential to apply the principle of triangulation by collecting data from multiple sources to verify the research findings and to promote quality (Rowley,

2002: 23). Triangulation is often used in case study design and requires the collection and analysis of data from at least three sources (Dawidowicz, 2011:10).

It is also important to mention the weaknesses of case study design. One of the main criticisms of case study research is the low generalisability of research findings because of small samples or single case explorations (Farquhar, 2012:11). Case studies are also often criticised for lacking rigour because researchers allow subjective views and interpretations to influence their findings (Zainal, 2007:5). For this reason, it is important to apply triangulation as a strategy to achieve “high quality, rigorous and respectable research results” (Rule & John, 2011:107).

In general, case study designs can be divided into two categories, namely an instrumental case study design and an intrinsic case study design. An intrinsic case study intends to lead to a better understanding of a specific case because it explores its significance as a unique phenomenon and not because it represents other cases (Rule & John, 2011:8).

In an instrumental case study, the case is of secondary interest. It is used to explain a particular theory or to gain a better understanding of a social issue. It therefore tends to examine a greater variety of cases to better understand the theory or principle being investigated (Rule & John, 2011:8).

This study used an intrinsic case study design to investigate a specific phenomenon for its own sake in order to reach a better understanding (Baxter & Jack, 2008:548). The case that was investigated was a real-life situation: the research support needs of emerging researchers at CPUT’s Faculty of Education. The researcher has a specific interest in this case as she is employed as a librarian at CPUT’s Education Faculty library. An improved understanding of the case will increase the library’s ability to render relevant research support services. Unlike the findings reached during an instrumental case study, the findings reached through this study will not necessarily allow for generalisation to a bigger population.

Another reason for selecting an intrinsic case study design is that it allows the use of both quantitative and qualitative data. The relevant data that were collected for this study included numeric (quantitative) as well as qualitative verbal and written data through interviews and an online questionnaire. Three data sources thus made triangulation possible for verification.

Rowley (2002:22) advised researchers using case study design to overcome the weaknesses by:

- asking good questions,

- having a sound understanding of the case's research objectives,
- approaching the study in an unbiased, and flexible manner.

The above guidance was followed during the implementation of this study.

### **3.4 Research methods: data collection**

Research methods refer to the implementation part of the research process that involves the kind of tools and procedures that are used to successfully achieve the research goals (Mouton, 2006: 56). Research methods are the data collection and data analysis methods used during a research project (Rule & John, 2011: 96).

Baxter and Jack (2008: 554) stressed the importance of the use of multiple data sources in case study research in order to enhance credibility. This assertion is confirmed by Stjelja (2013:7) who stated that case studies necessitate the collection of in-depth and detailed data through multiple methods. This study used three data sources to enhance credibility: an online questionnaire, a semi-structured focus group interview and a semi-structured individual interview.

As mentioned earlier, the data collected from the above-mentioned sources were triangulated to promote credibility (Baxter & Jack, 2008: 556). Through triangulation, this study's research aim (to establish the support needs of emerging researchers at CPUT's Faculty of Education) was explored from multiple perspectives and viewpoints.

Delpont et al. (2011:186) described a questionnaire as a "document containing questions to obtain facts and opinions about a phenomenon, from people who are informed on the particular issue". Questionnaires can be seen as a form of structured interview where all respondents are asked to answer the same questions. Important benefits of questionnaires include respondents' confidentiality and ease of analysis. A major limitation of questionnaires is that it is fairly difficult to get all potential respondents to complete and submit questionnaires. This may impact on the reliability of conclusions reached (Hofstee, 2006:133).

For the purpose of this study, an online questionnaire was distributed to emerging researchers at CPUT's Faculty of Education. Since the primary objective of this dissertation was to ascertain emerging researchers' support needs and expectations, it was best to directly ask them what their support needs and expectations are. The questionnaires collected quantitative and qualitative data and were distributed electronically to all emerging researchers employed at CPUT's Faculty of Education.

Additional data collection methods were a focus group interview and an individual interview. A focus group interview can be defined as a “carefully designed discussion to obtain perceptions on a defined area of interest in a permissive, non-threatening environment” (Delpont et al., 2011:361). Focus group interviewing is frequently used to collect qualitative data to gain a better understanding of how people think or feel about the aspect being investigated (Morgan, 1997:32). Focus group participants are selected because of their shared characteristics that relate directly to the case being investigated (Delpont et al., 2011:361).

For the purpose of this study, the focus group consisted of the librarians at CPUT’s Faculty of Education libraries as well as CPUT libraries’ research librarian. The research librarian provides research support to all CPUT’s faculties. This group of librarians share the responsibilities of providing research support to researchers within the Education Faculty. Collectively these librarians have years of experience in their respective positions and thus provided insight into emerging researchers’ support needs. The focus group interview was conducted in the form of a once-off, semi-structured interview. The participants engaged in a guided discussion about what they regard as the most important research support needs of the Education Faculty’s emerging researchers. The data collected through this method were recorded and transcribed into textual data.

The final data collection method was the facilitation of a semi-structured individual interview. A semi-structured interview refers to “an interview where the researcher asks a standard set of questions with one or more individually tailored questions to probe a person’s reasoning” (Leedy and Ormrod, 2010:188). An interview was scheduled with the Education Faculty’s research coordinator who is based at the Wellington campus. With this interview, the researcher wanted to establish what the Research coordinator regarded as emerging researchers’ most important research support needs and expectations.

### **3.4.1 Designing the research instrument**

To implement the three methods mentioned above, the researcher did not use existing instruments but designed new instruments. The research life cycle was used as a conceptual framework to assist in the design and construction of the questionnaire as well as the interviews. The validity of using the research life cycle as a conceptual framework was discussed in chapter two.

Once the design of the questionnaire was finalised and permission given to distribute it (see section 3.7 below), the researcher emailed the questionnaire to all potential respondents. In designing the questionnaire, the researcher attempted to create a high quality questionnaire by paying attention to the following important aspects:

- avoiding ambiguous or vague items
- avoiding double barrelled questions
- paying careful attention to the sequence of questions
- avoiding influencing or leading questions
- avoiding poor and confusing layout of questions
- avoiding biased question constructs (Mouton, 2006:103-104).

Through the questionnaire, which consisted of closed and open-ended questions, numerical as well as textual data were collected. The questionnaire was created in Google Docs which is a Web-based application freely available on the internet that supported the creation and online storage of the questionnaire as well as the online storage of the responses received. The online questionnaire was electronically distributed to participants by emailing it to their individual CPUT email addresses.

Once participants had completed and submitted the questionnaire, the data remained automatically stored online. Google Docs allows the data to be downloaded into a web-based spreadsheet, a function that was used to assist with the analysis and interpretation of the questionnaire data. Participants received three weeks in which to complete the questionnaire; three reminders (one reminder per week) were sent. After the allocated three weeks, the questionnaire was disabled which implied that no further responses were allowed, thus securing the data.

The interview was designed to obtain insights from a group of library professionals with years of experience in the field of research support within the Education Faculty. Through the focus group interview, the researcher wished to determine what the librarians regarded as the support needs of emerging readers. Special attention went into the design of the interview questions. In designing the semi-structured focus group interview, the researcher paid special attention to the type of questions asked to ensure that the data collected from them added value, depth and a complementary perspective to the conclusions reached.

### **3.4.2 Sampling**

Sampling refers to the selection of people as research participants. In a single case design, participants are selected for their possibility to cast more light on the case (Rule & John, 2011:64). In selecting

participants for the completion of the online questionnaire, the entire target population – all emerging researchers employed at CPUT’s Faculty of Education – was selected. Therefore, instead of selecting a sample of the target population, a census was taken – referring to the selection of an entire population (Daniel, 2012:5). Participants of the focus group interview were purposively sampled. According to Morse (2004:885), purposive sampling is “the deliberate seeking out of participants with particular characteristics, according to the needs of the developing analysis.” Librarians who were selected as participants of the focus group were selected for their involvement in research support at CPUT’s Faculty of Education. The research coordinator was not sampled but was selected as a participant as she was considered a key informant.

### **3.5 Research methods: Data capturing and data analysis**

Once the data had been collected, the process of interpreting the data commenced. According to Mouton (2006: 108), the analysis of data involves the “breaking up of data into manageable themes, patterns, trends and relationships.” Data analysis is a critical stage in the research process and includes the scanning and cleaning of data as well as the organising of data in an attempt to find “patterns of meaning” (Rule & John, 2012:75). The researcher herself was responsible for handling all the aspects involved in the interpretation and analysis of data. The combination of numerical and textual data obtained from the questionnaires and the interviews were presented in a combination of graphs, tables, summaries and selected quotations. These were used to reach conclusions that assisted in answering the research question.

Triangulation was implemented to ensure that the project led to a validated understanding of the research needs of emerging researchers at CPUT’s Faculty of Education. The data obtained from the three methods were compared and contrasted in order to produce a well-validated list of conclusions. Through the use of triangulation, the researcher attempted to achieve high quality research results.

### **3.6 Limitations of the study**

The main strength of a case study design is its ability to facilitate in-depth research and the collection of detailed information. All research designs however have certain limitations. The most important limitations associated with case study research and the data methods selected were discussed earlier, as part of the discussions providing details about the research design and methods used.

Another potential limitation concerned the respondents of the online questionnaire. The researcher anticipated a poor response because of participants’ demanding workloads. In an attempt to manage



this limitation, the researcher personally contacted the participants. This assisted to improve the response rate to the online questionnaire. The questions were such that being contacted by the researcher would probably not influence their responses in any way.

Important limitations of a focus group interview include aspects such as bias, discussion domination and expression by active participants only, as well as forced compliance by passive participants of the group (Delpont et al., 2011:374). These challenges were not experienced during this researcher's focus group interview as all participants spoke freely but with respect for one another's opinions and contributions. Participants of the focus group are experienced librarians who have been working together as colleagues at CPUT libraries for the past eight years. This contributed towards the fact that the conversation amongst focus group participants was cooperative, open and engaging.

### **3.7 Ethical considerations**

According to Farquhar (2012:12), "the governing principle of research ethics can be reduced to 'do no harm', either to the research participants or to the wider world of research and the community of researchers." For the ethical considerations of all research projects, researchers should ensure the following aspects:

- Research integrity
- Avoiding plagiarism
- Declaring possible conflicts of interest
- Effective data handling
- Implementation of the appropriate ethical procedures (Farquhar, 2012:12).

The researcher was mindful of all the ethical considerations mentioned above. She ensured that nobody suffered harm as a result of their participation in this study. The following ethics principles were applied to ensure that a high standard of research ethics was maintained:

- Practise the principle of informed consent
- Inform participants about the details and purpose of the research
- Explain to participants how the research will affect them
- Inform participants about the risks and benefits of the research
- Maintain principles of confidentiality and anonymity (Bless, Higgins & Kagee, 2006:142).

In terms of the quality of the research project, the researcher complied with underlying ethical obligations to ensure that a well-designed project was executed with excellence and care. The

researcher applied ethical principles whilst analysing the data and reporting on the results and conclusions. To accomplish these principles, the researcher was open and transparent about the shortcomings, failures, negative findings and limitations of the study (Bless, Higgins & Kagee, 2006: 142).

The researcher obtained institutional ethical approval to carry out the research project. Firstly, permission to conduct the research was obtained from UCT's Library and Information Studies Centre on behalf of the Humanities Faculty (see Appendix D for clearance letter). Then, permission to carry out the research among CPUT's staff members was obtained according to CPUT's ethical clearance policies and procedures. The process involved the completion and submission of a 'Research ethics review checklist' as well as obtaining a 'Research Ethics Clearance Certificate' from CPUT's Research ethics committee (CPUT, n.d.c.). See Appendix E for CPUT's clearance letter.

### **3.8 Conclusion**

This chapter provided details about the research approach, the research design, data collection methods as well as the analysis of the collected data. It also included the aspects related to the limitations of the study and the ethical considerations that were applied.

## **Chapter 4: Data analysis**

### **4.1 Introduction**

This study investigated the research support needs of emerging researchers employed at CPUT's Faculty of Education. The rationale behind the investigation was to obtain a renewed understanding of the research support needs of this group. Lately this question has been asked by many academic librarians. Wiklund and Voog (2013:1), for example, based their research project on the question: "How can libraries support research and researchers if they don't know what researchers want?"

To this end, online questionnaires were distributed to emerging researchers employed at CPUT's Faculty of Education. Data collected from the questionnaires were used to respond to the main objective of this study which is to determine a group of emerging researchers' support needs pertaining to the library.

Two additional data collection methods were used to respond to this dissertation's second objective namely to determine what librarians and the research coordinator regard as emerging researchers' most important research support needs. These methods included a focus group interview with librarians as well as an individual interview with the Education Faculty's research coordinator.

Data collected from the above-mentioned interviews were used to analyse the differences and similarities in what emerging researchers regard as their support needs compared to what the faculty librarians and the research coordinator regard as researchers' most important support needs. The research life cycle was used as a conceptual framework that guided the design and structure of the data instruments used – the questionnaire as well as the interviews. Data that were collected through these methods will now be discussed and analysed.

### **4.2 Questionnaire**

The following discussions will focus on the analysis of the data collected through emerging researchers' responses to the online questionnaire. Questionnaires were distributed electronically to emerging researchers employed at CPUT's Faculty of Education.

#### **4.2.2 Structure and design**

Guided by the stages and details of the research life cycle models listed in chapter 2, the questionnaire for this study was crafted around the following five main stages:

- Research support in the ideas and planning stage
- Research support in the information gathering stage
- Research support in the research process stage (Conducting the research)
- Research support in the dissemination stage (Disseminating the research)
- Research support in the measure stage (Measuring the impact of the research)

These stages were further broken down into sub-categories, relevant to each of the main stages of the research cycle. A detailed breakdown of each of the sections follows from section 4.2.5. A copy of the questionnaire is included as Appendix A.

### **4.2.3 Population and response rate**

The process of creating a comprehensive list of all the emerging researchers employed as academic staff members at CPUT's Faculty of Education (at both the Mowbray and Wellington campuses) involved a number of challenges. For the purpose of this study 'emerging researchers' were all researchers who had recently (within the past five to seven years) completed a master's or doctorate degree and who have ambitions to further their careers as researchers.

Researchers who recently took on an academic post for the first time but had completed their degrees prior to the stipulated seven years ago were also included in the sample. Although the aforementioned researchers were not strictly within the 5-7 years' category, they were included in the population as they are new to the academic sector and thus starting out in their careers as researchers.

Being able to create a list of all the emerging Education Faculty researchers located at the Wellington campus was not difficult as this study's researcher is currently employed at CPUT's Wellington campus and therefore knows who the emerging researchers are. The compilation of the list of emerging researchers located at the Mowbray campus was more challenging, mainly because the researcher is unfamiliar with the researchers at the Mowbray campus. The following steps were followed in an attempt to compile an all-inclusive list of emerging researchers:

Firstly, the Education Faculty's research coordinators located at each of the two campuses were contacted to obtain the names and contact details of their respective emerging researchers. Neither of the two coordinators was able to provide a comprehensive list of all of the faculty's emerging researchers. Only a few names were obtained through this inquiry. The researcher therefore decided to take a longer route by obtaining a list of all the academic staff employed at CPUT's Faculty of

Education by downloading it from the Education Faculty's website. This list of academic staff members was checked against a number of additional databases in an attempt to identify all individuals who matched the study's description of emerging researchers. The following databases were consulted to assist with the verification of researchers' qualifications, the year the qualification was obtained as well as research-related outputs authored by a specific individual:

- Google Scholar (Google Scholar, n.d.).
- CPUT's Digital repository (D-Space) that hosts digital copies of all research outputs created by CPUT's staff members and CPUT students (CPUT Libraries, n.d.).
- Sabinet's database listing all current and completed research done at South African academic institutions (Sabinet, n.d.).
- The NRF (National Research Foundation) database listing all current and completed research projects that were funded by the NRF (NRF, n.d.)
- ResearchGate which is a social networking site for researchers to share their publications and research interests, and to find research collaborators (ResearchGate, n.d.)

As a final measure to ensure the compilation of an extensive and complete list of emerging researchers, the list of names was verified with the faculty librarian employed at the Mowbray campus. This librarian has been working closely with all researchers based at the Mowbray campus for many years. After this final verification, the list consisted of thirty-seven emerging researchers employed at CPUT's Education Faculty: twenty-one from Wellington and sixteen from Mowbray.

The online questionnaire was distributed per electronic mail to all of the above-mentioned (37) researchers, on Wednesday the 25<sup>th</sup> of April 2018. Reminders were sent on the 2<sup>nd</sup> of May and again on the 10<sup>th</sup> of May 2018. A final reminder was sent on the 21<sup>st</sup> of May 2018. On the 31<sup>st</sup> of May the survey was closed. In total, twenty-one researchers completed and submitted the online questionnaire providing a response rate of 57%. A spreadsheet of responses to the questionnaire is included as Appendix F.

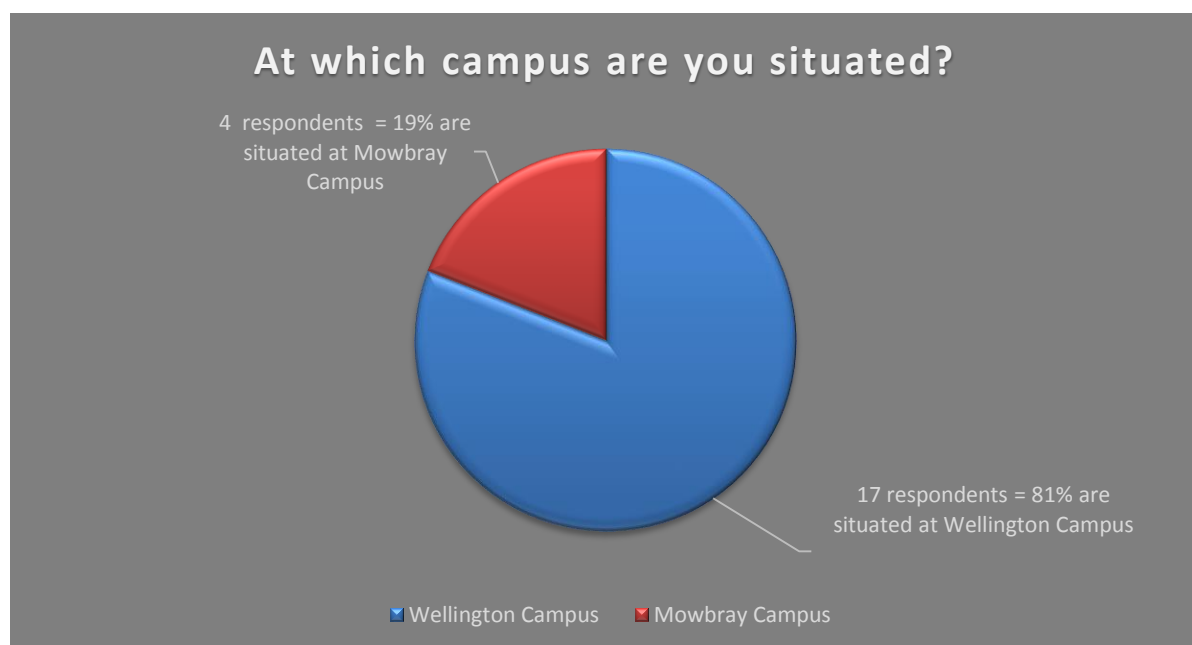
#### **4.2.4 Respondents' demographic details and research profiles**

The first two sections of the online questionnaire collected respondents' demographic details as well as details of each respondent's researcher profile. Question 1.1 asked respondents to state at which of the two campuses they are situated. Question 1.2 enquired about the respondents' highest qualification obtained. Question 1.3 asked respondents to state how long ago this qualification was obtained.

Of the twenty-one responses received, only four respondents were based at the Mowbray campus whilst the remaining seventeen respondents were located at the Wellington campus. Sixteen questionnaires were distributed to researchers from Mowbray thus the four responses equalled a response rate of 25%.

Twenty-one questionnaires were distributed to Wellington-based researchers. Seventeen responses were received which provided a response rate of 81%. The percentage of responses received from Mowbray-based respondents were clearly far fewer than those received from researchers at the Wellington campus. Figure 4.1 illustrates the above.

**Figure 4.1**  
**At which campus are you situated?**  
**All respondents (N= 21)**



The next two questions of the questionnaire (question 1.2 and question 1.3), asked respondents to indicate their highest qualification obtained and to indicate how long ago they obtained this qualification. The following responses were received. Of the twenty-one responses received, thirteen respondents (62%) obtained a master's degree, whilst seven (33%) respondents indicated that a PhD was their highest qualification.

One respondent's highest qualification was an honours degree. Strictly speaking, this respondent did not match the sample's description. The data collected from this respondent was however included in the data analysis because the respondent recently (1-2 years ago) obtained an honours degree. The respondent also indicated that he/she is currently pursuing a master's degree. Moreover, it seemed likely that this respondent recently joined the academic sector. As mentioned above, staff members who were recently appointed in academic posts and who have ambitions to further their careers as researchers, were also included in the sample.

Table 4.1 summarises responses to question 1.2 and question 1.3.

**Table 4.1**  
**Highest qualification obtained and how long ago (N = 21)**

Highest Qualification	1 – 2 years ago	3 - 5 years ago	5 – 7 years ago	More
Honours Degree	1 respondent			
Masters' Degree	2 respondents	4 respondents	2 respondents	5 respondents
PhD	2 respondents	1 respondent	2 respondents	2 respondents
Totals	5 respondents	5 respondents	4 respondents	7 respondents

From the table above it is evident that the majority (seven) of researchers obtained their highest qualifications more than seven years ago. These are some of the researchers included in the survey population because they are new academic staff who were teachers before being appointed at CPUT.

The next set of questions (questions 2.1 to 2.6) aimed to collect details regarding respondents' research profiles including efforts and outputs associated with the advancement of a research career. Respondents were asked to answer the following questions:

- Are you currently pursuing another degree?
- How many papers have you presented/co-presented at national conferences?
- How many papers have you presented/co-presented at international conferences?
- How many journal articles have you published/co-published?
- How many book chapters have you published/co-published?
- Specify any other scholarly outputs that you have been involved with.

Responses received to these questions are presented in Figure 4.2 and Table 4.2 as well as Figure 4.3.

**Figure 4.2**  
**Are you currently pursuing another degree?**  
**All respondents (N = 21)**

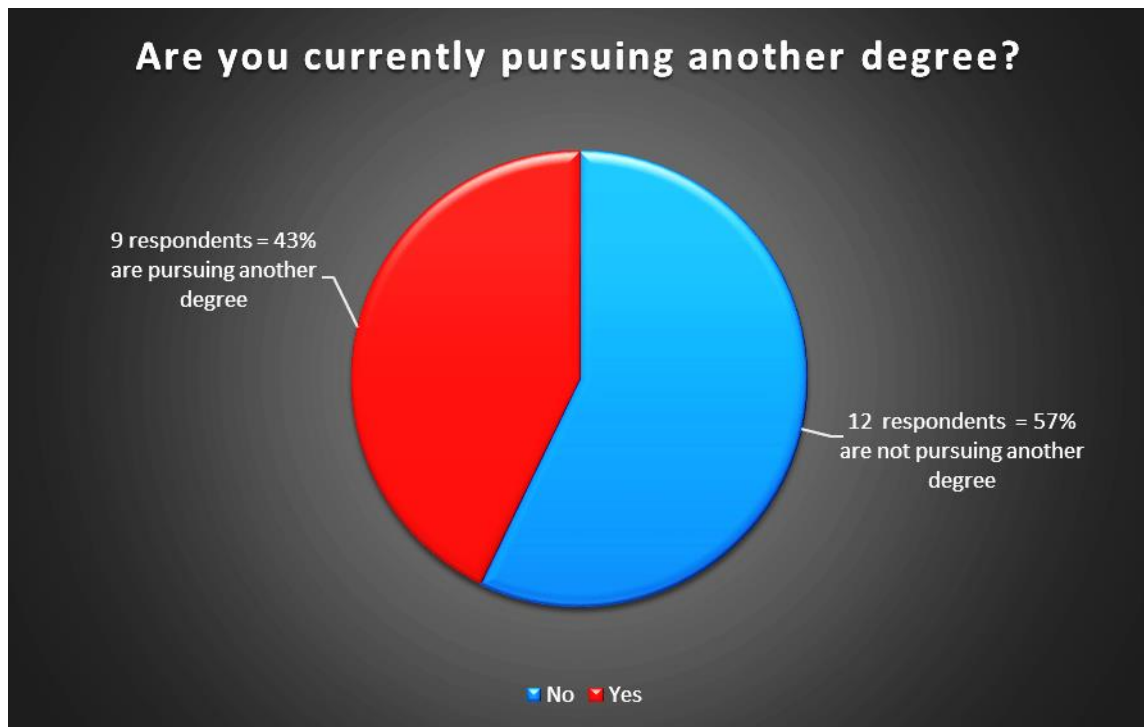


Figure 4.2 illustrates that the majority of respondents (12) are not pursuing another academic degree. This can be due to the fact that seven of them have already obtained doctorate degrees (PhD).

An aspect that is noteworthy is that five of the respondents who indicated that they are not pursuing another academic qualification have as their highest qualification a master's degree. It is possible that responses would have been different if this question had been phrased differently for example: "Do you intend to pursue another degree," instead of: "Are you currently pursuing another degree?"



**Table 4.2**  
**Respondents' research profiles and outputs (N = 21)**

Description	None	1-2 items	3-5 items	6-8 items	9-10 items
Papers presented at National Conferences	6	5	4	4	2
Papers presented at International Conferences	11	6	4	0	0
Journal articles published/co-published	5	13	2	0	1
Book chapters published/co-published	9	11	1	0	0
<b>Totals</b>	<b>31</b>	<b>35</b>	<b>11</b>	<b>4</b>	<b>3</b>

**Figure 4.3**  
**Respondents' research profiles and outputs**  
**All respondents (N = 21)**

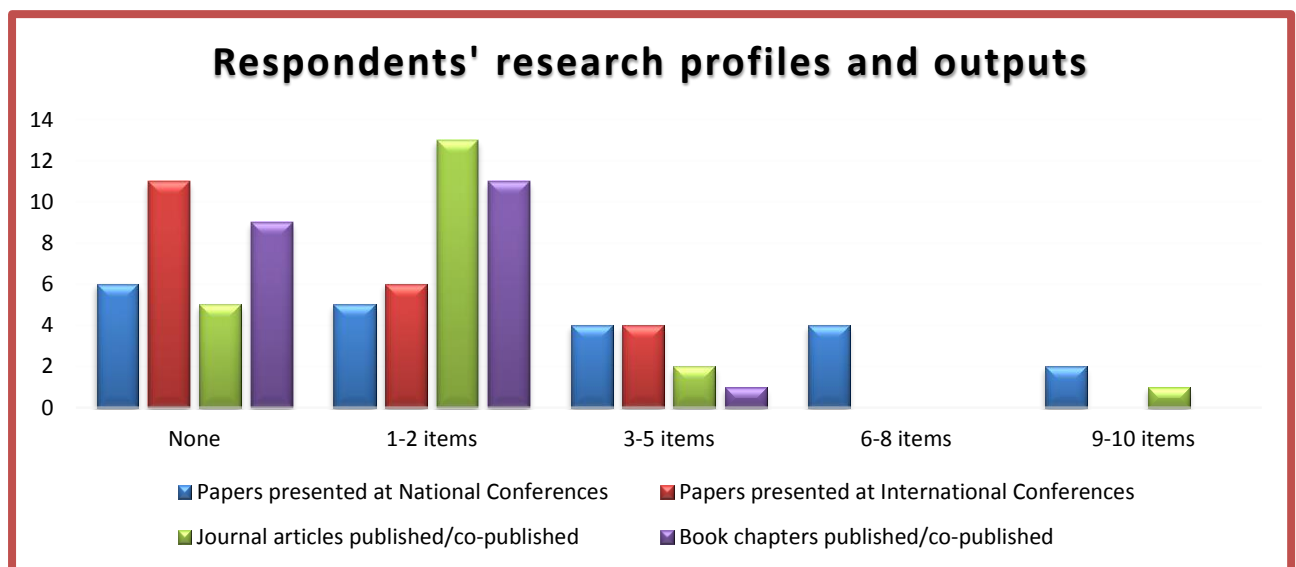


Table 4.2 provides details about respondents' research outputs. The majority of respondents (18 respondents) have authored a fairly low number of research publications varying between 'none' and '1-2 items'. However, in response to question 2.6. "Apart from the examples listed above, what other scholarly outputs have you been involved with," respondents mentioned the following:

- "I have co-authored many text books for primary schools as well as the text book used by our Education students."

- “Collaborative work with other universities on ESD [ Education for Sustainable Development] which is a Flagship program for SWEDESD [Swedish International Centre of Education for Sustainable Development] and UNESCO [The United Nations Educational, Scientific and Cultural Organization].”
- “Developed material and manual for EU [European Union] projects.”
- “No, I have parts of research /articles that are incomplete, my lecturing load is such that I do not have time to pursue and complete research projects that I'm interested in.”
- “Personal exhibitions, which CPUT does not accept as a 'scholarly output'!”
- “Researcher for Umalusi” [Council for Quality Assurance in General and Further Education and Training]
- “Evaluation reports on university projects”
- “Writing of books for Sol Plaatje Museum in Kimberley”
- “Article submitted to Acta Academica. Currently waiting for feedback”

Apart from the scholarly outputs listed as options in the questionnaire, respondents indicated their involvement in alternative forms of academic and scholarly outputs. Because most of the respondents were former teachers, they have assisted with publications and initiatives supporting basic education. In hindsight, it would have been a good idea to ask respondents also to specify the broader education/community-participation projects in which they are involved. Responses might have assisted to create a more accurate idea of respondents’ academic and professional profiles.

#### **4.2.5 Support for the stages of the research life cycle**

The following sections of the questionnaire dealt with respondents’ research support needs according to the stages of the research cycle.

Although the library does not offer support services for every aspect of the research life cycle, respondents were nonetheless asked to rate their support needs throughout the entire research cycle. With the inclusion of the full spectrum of activities in the research cycle, the researcher hoped to be able to determine gaps in the current support services of the library. Respondents were requested to rate their research support needs according to a Likert scale. The tables and figures that follow provide a visual breakdown of the responses received.

##### **4.2.5.1 Ideas and planning stage (Question 3)**

**Table 4.3**  
**Research support needs in the ideas development stage (N = 21)**

Support needs according to the following rating:	Agree	Neutral	Disagree
I need support in choosing a research topic	9	7	5
I need support in formulating a research question	6	8	7
I need support in identifying collaborators	11	8	2
I need support in identifying funding opportunities	9	8	4
<b>Totals</b>	<b>35</b>	<b>31</b>	<b>18</b>

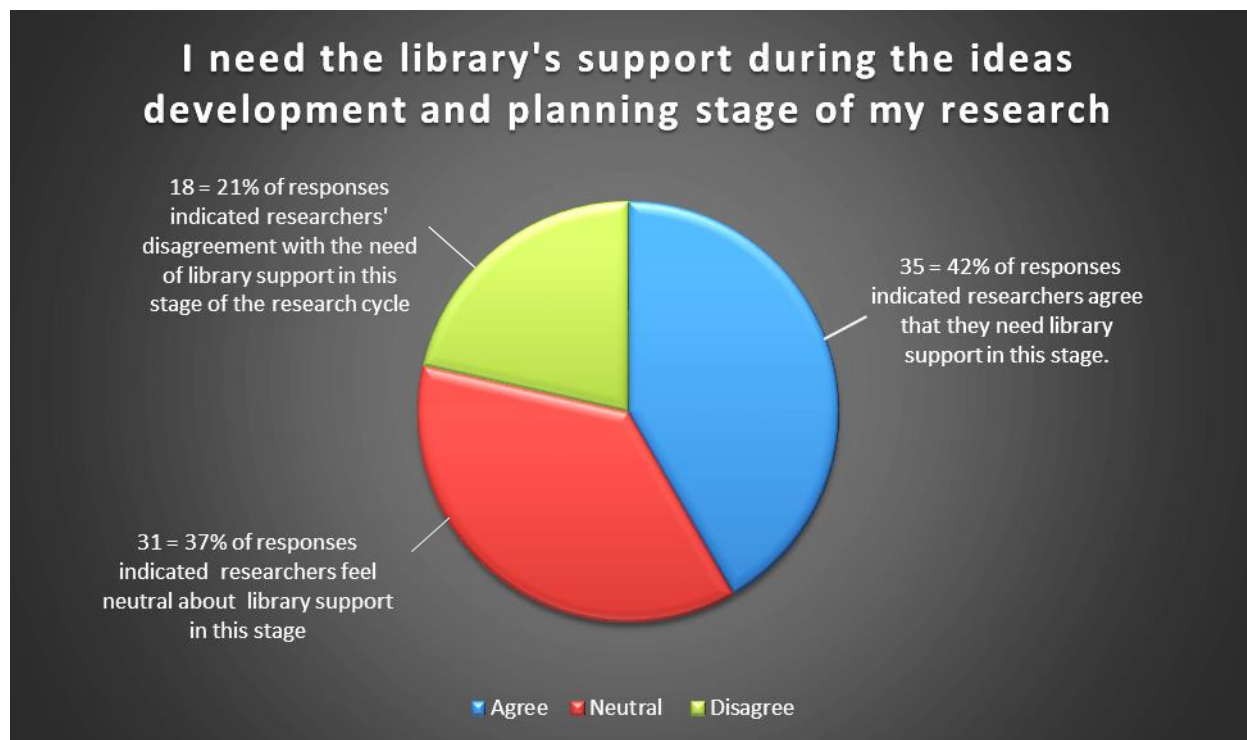
An important observation about the data presented in Table 4.3 is that a significant number of respondents (11) indicated that they needed the library's support in identifying research collaborators. Also significant is that a low number of respondents (6) indicated that they needed the library's support in formulating a research question. What is interesting however is that there are actually respondents (6) who indicated that they do indeed need the library's support in formulating a research question. Traditionally this aspect has never been associated with the support libraries offer their researchers.

Another interesting aspect is that a significant number of respondents (9), indicated that they needed the library's support in identifying funding opportunities. Traditionally this aspect has also never strictly been associated with the support that libraries offer their researchers.

Worth mentioning is the large number of responses (31) indicating that researchers are 'neutral' about types of support during the ideas development and planning stage of their research. It is difficult to determine what the reason for this large number is as respondents were not asked to provide reasons for their responses. The researcher suspects that this might point to the fact that respondents are 'open' to support services offered by the library at this stage of the research cycle. This might be an indication for the library to promote or expand the support services that they provide at this stage of the research cycle.

A summary of the support needs in this stage is illustrated in Figure 4.4

**Figure 4.4**  
**Research support needs in the ideas and planning stage**  
**Total responses = 84**



#### 4.2.5.2 Information gathering stage (Question 4)

Respondents' replies to the question that enquired about researchers' support needs in the information gathering stage are presented in Table 4.4.

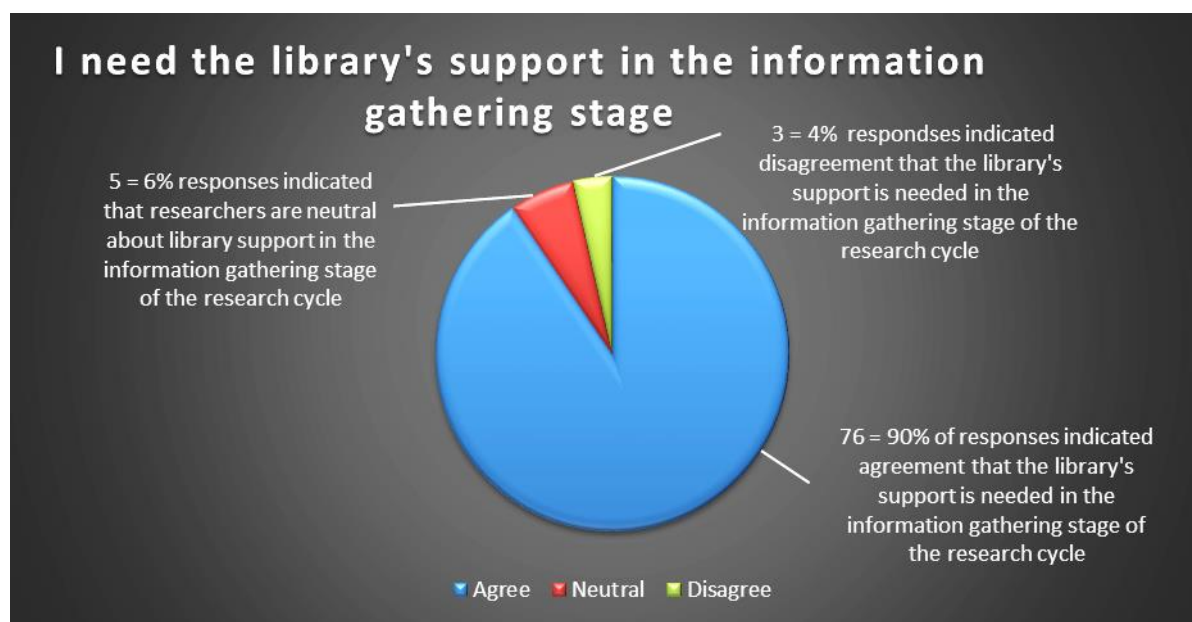
**Table 4.4**  
**Research support needs in the information gathering stage (N = 21)**

Support needs according to the following rating:	Agree	Neutral	Disagree
I need support to locate and access the information I need	20	0	1
I need support in keeping up to date with new information published in my field of interest.	20	1	0
I need assistance with constructing complex searches that will help me to find the most suitable electronic and print resources available.	20	0	1
I need support to manage the collected information	16	4	1
<b>Total amounts</b>	<b>76</b>	<b>5</b>	<b>3</b>

In contrast with responses to the previous question, a low number of 'neutrals' (5) was chosen as an option for the type of research support services that respondents expect from the library during the

information gathering stage, with most respondents (16-20) agreeing that they do need the library's support during the information gathering stage. This is an indication that respondents are certain that they need the library's support during the information gathering stage of their research. Respondents' concurrence that the library's support is most needed in the information gathering stage is clearly illustrated in Figure 4.5.

**Figure 4.5**  
**Research support needs in the information gathering stage**  
**Total responses = 84**



As illustrated in Figure 4.5 responses were weighted towards the importance of the library's support in the information gathering stage. This response correlates with the literature that regards information support services as traditional research support services offered by academic libraries (Raju & Schoombee, 2013:28).

#### 4.2.5.3 Research process stage (Question 5)

The next question in the questionnaire inquired about respondents' support needs in the research process stage. The responses received are displayed in Table 4.5.

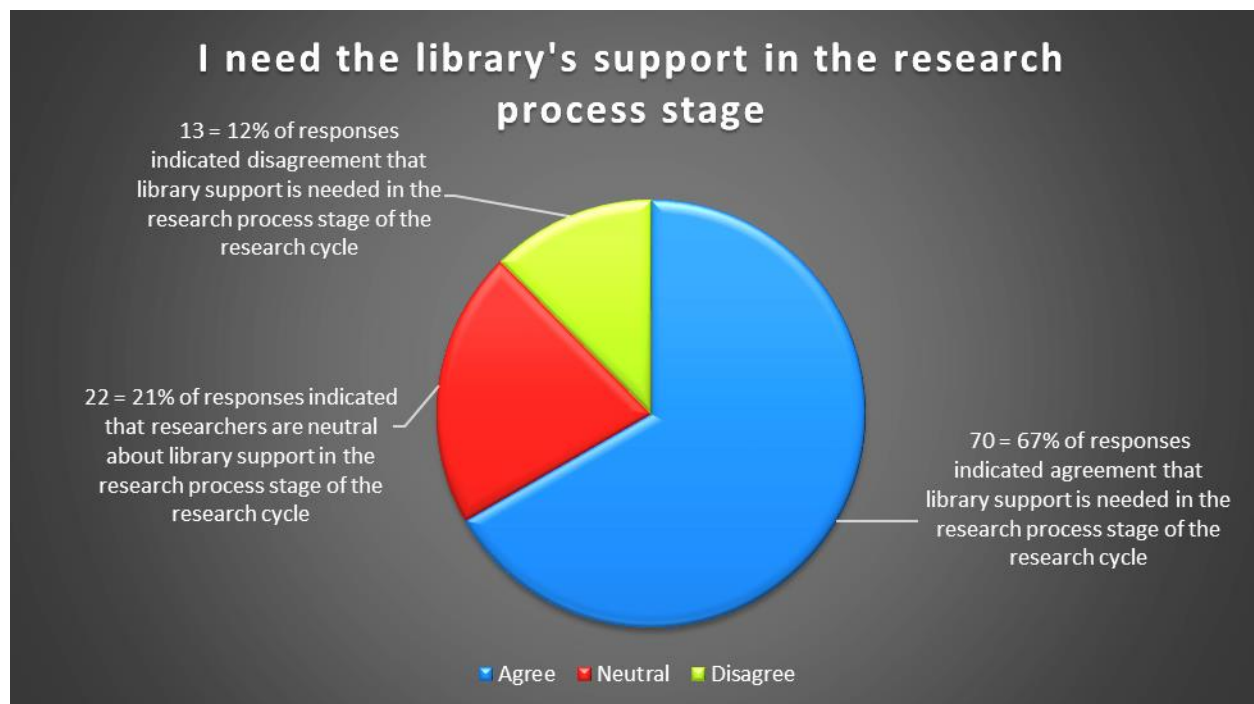
**Table 4.5**  
**Research support needs in the research process stage (N = 21)**

Support needs according to the following rating:	Agree	Neutral	Disagree
I need support with intellectual property & copyright issues	14	4	3
I need support with managing citations and references	16	3	2
I need support in developing a data management plan	16	3	2
I need support in managing my datasets & making them discoverable and available for future use	18	2	1
I need support with the processes involved in obtaining ethical clearance for my research	6	10	5
<b>Total amounts</b>	<b>70</b>	<b>22</b>	<b>13</b>

The majority of responses (70) indicated that researchers require the library's support in many aspects of this stage of the research process. The biggest need for library's support in the research process stage of the research cycle was indicated as being on the level of managing datasets and making them available for future use (18 respondents agreed). Two other aspects that were highlighted as important were those of support with the development of a data management plan (16 agreed) as well as support with managing citations and references (16 agreed). The majority of responses showed uncertainty or neutrality about the library's involvement with the processes associated with obtaining ethical clearance. Respondents did not regard this aspect as a definite library support function.

The research support needs of respondents in the research process stage of the research cycle is further illustrated in Figure 4.6.

**Figure 4.6**  
**Research support needs in the research process stage.**  
**Total responses = 105**



#### 4.2.5.4 Dissemination stage (Question 6)

This study considered the dissemination of research outputs as the fifth stage of the research cycle. Again respondents were asked to rate their research support needs according to a Likert scale. The questions asked and responses received are displayed in Table 4.6.

**Table 4.6**  
**Research support needs in the dissemination stage (N = 21)**

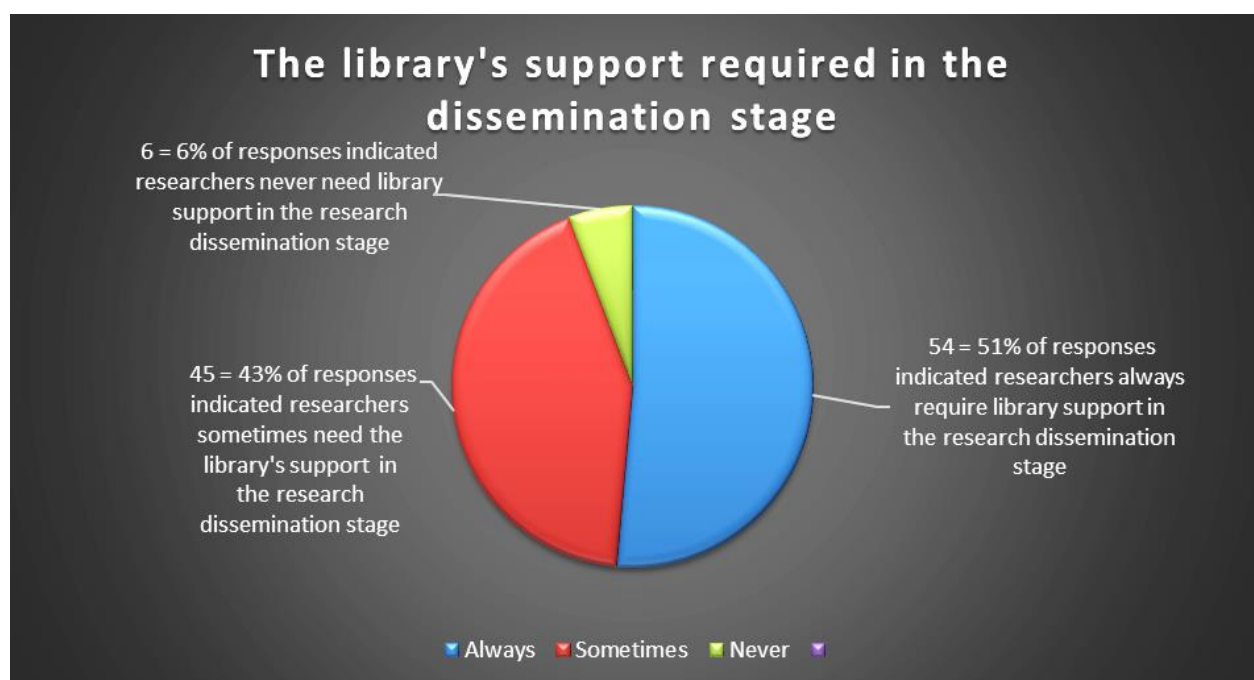
I need the library's support with:	Always	Sometimes	Never
Selecting suitable accredited journals for publishing	9	12	None
Identifying suitable open access journals to consider for publishing	11	9	1
The managing of copyright issues	10	9	2
Depositing my work in digital repositories	13	6	2
The use and implications of various licenses e.g. Creative Commons Licensing.	11	9	1
<b>Totals</b>	<b>54</b>	<b>45</b>	<b>6</b>

Respondents rated the research support that they expect from the library at the dissemination stage of the research cycle as secondary to the research support that they expect from the library in the

research process stage. What the researcher found most significant is that respondents did not rate the selecting of suitable journals for publishing as an unquestionably important library support function, with 12 respondents saying that they sometimes need the library's support in identifying suitable journals to consider for publishing. This is significant because, in the focus group (discussed in section 4.3), librarians rated the identification of journal titles for publishing as one of the most important research support functions that they provide. This difference in opinion of the librarians and the researchers might be attributed to the fact that, according to the respondents' research profiles, this group of researchers has not really been exposed to journal publishing as yet (see Table 4.2.). The majority of respondents (13) however rated the library's assistance with the publishing of their research output into digital repositories as important.

The research support needs of respondents in this dissemination stage of the research process is illustrated in Figure 4.7.

**Figure 4.7**  
**Research support needs in the dissemination stage.**  
**Total responses = 105**





#### 4.2.5.5 Measuring stage (Question 7)

The next question in the questionnaire asked respondents to indicate the kind of research support they expect from the library during the last stage of the research cycle which involves the measurement of research impacts. The questions asked and responses received are presented in Table 4.7.

**Table 4.7**

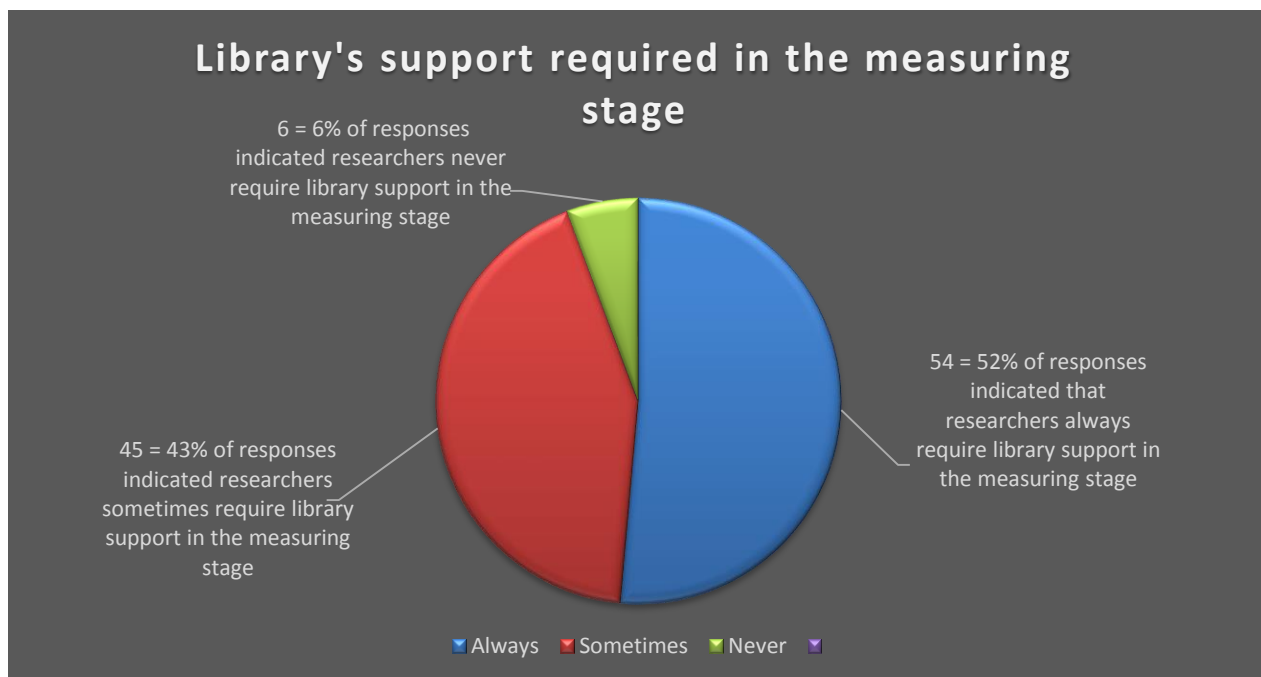
**Research support needs in the measuring stage (N = 21)**

I need the library's support with:	Always	Sometimes	Never
Tracking my research impact	10	9	2
The use of metrics to demonstrate my research impact	11	7	3
Using metrics to decide where to publish	12	7	1
Updating my professional information on relevant websites and platforms (for example, ResearchGate and ORCID)	12	5	4
To optimize my visibility and to expand my research network	12	8	1
<b>Totals</b>	<b>57</b>	<b>36</b>	<b>11</b>

What is interesting about the responses received in this section is that, in all of the questions, a small majority of respondents (57; 60%) indicated that they needed the library's support in this stage of the research life cycle. The researcher is of the opinion that these responses might be an indication that most of the respondents have not really been exposed to aspects related to the measuring of research impacts and would thus consider the library's support helpful. (One respondent omitted to indicate his/her research support needs in the use of metrics when having to decide where to publish, hence the total number of responses to this part of the question differs from the others.)

The research support needs of respondents in the entirety of the measuring stage of the research process is illustrated in Figure 4.8

**Figure 4.8**  
**Research support needs in the measuring stage.**  
**Total responses = 104**



The total amount of research support required in the measuring stage of the research cycle corresponds very closely with the responses received for the dissemination stage. Respondents regarded the library's research support within the measuring and dissemination stages of the research cycle as equally important, with 52% of respondents indicated that they always need the library's support during these two stages of the cycle.

#### **4.2.6 Library support expansions (Question 8)**

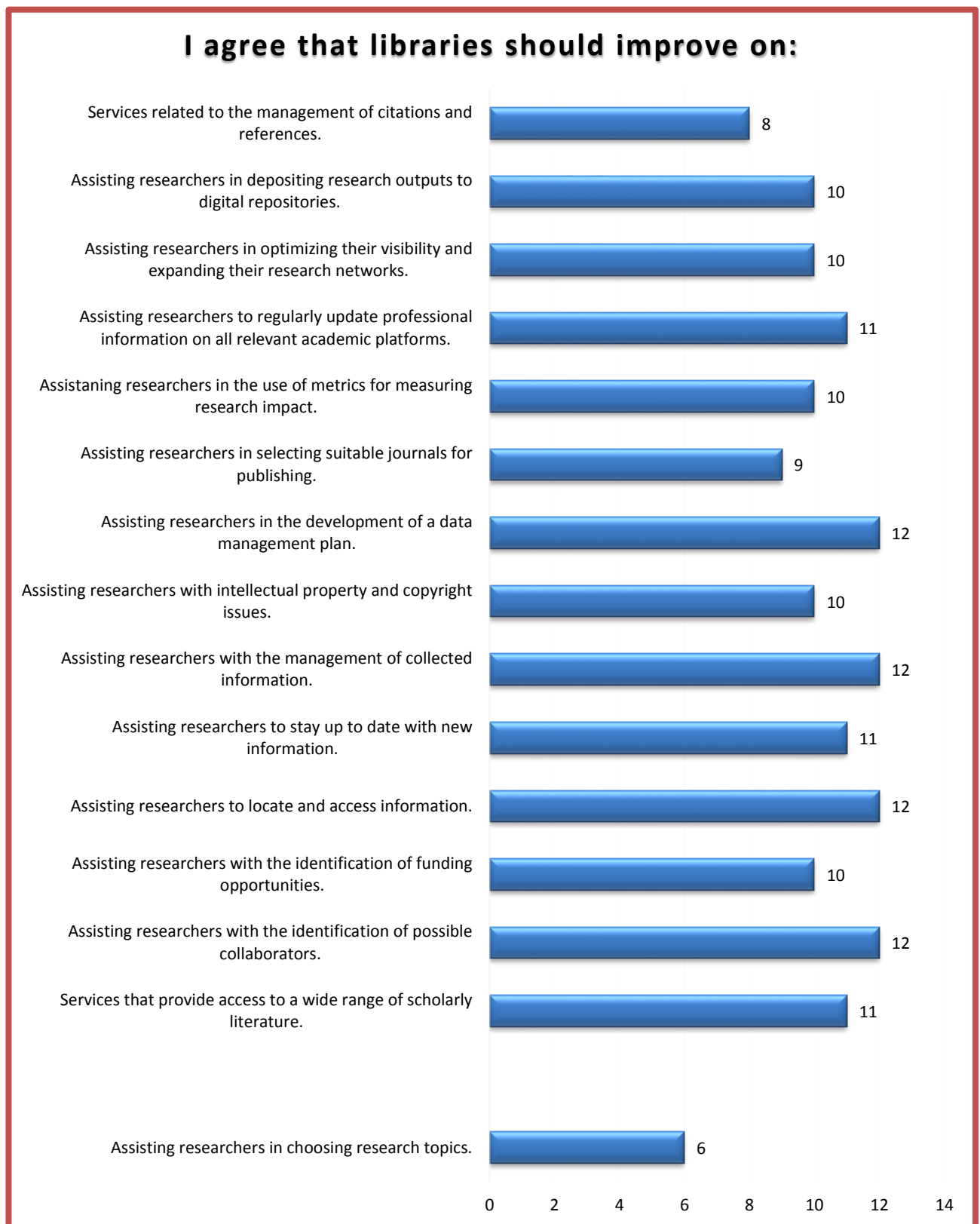
The last Likert scale type of questions that were asked focused on the issue of library support expansion. The researcher wanted to hear from respondents in which areas of research support offered by the library they would want to see the library expanding or developing its services. Questions asked and responses received are presented in Table 4.8. The four most important suggestions for library support expansions are highlighted in pink. For each of the highlighted suggestions, twelve respondents agreed that the library should consider to expand or develop the research support services they are currently offering in these areas

**Table 4.8.**  
**Suggestions for library support expansions (N = 21)**

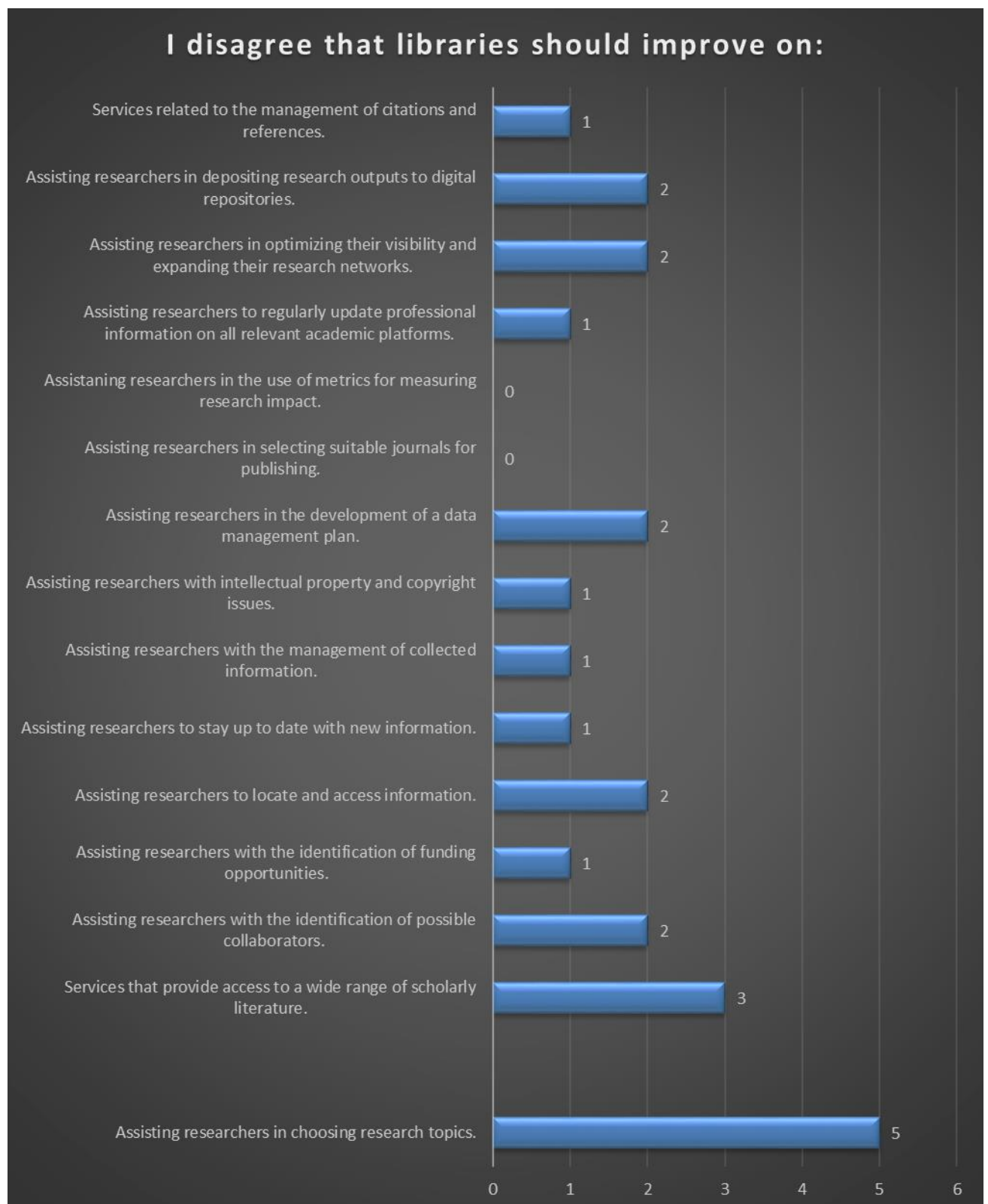
<b>Library research support service</b>	<b>1 - I agree with this statement</b>	<b>2 – I am neutral about this statement</b>	<b>3 – I disagree with this statement</b>
The library needs to develop services that assist researchers in choosing research topics.	6	10	5
The library needs to improve on services that provide access to a wide range of scholarly literature.	11	7	3
The library needs to develop services that assist researchers with the identification of possible collaborators.	12	7	2
The library needs to expand those services that assist researchers with the identification of funding opportunities.	10	10	1
The library needs to improve on services that assist researchers to locate and access 'research related' information.	12	7	2
The library needs to improve on services that assist researchers to stay up to date with new information.	11	8	1
The library needs to improve on services that assist researchers with the management of collected information.	12	8	1
The library needs to develop services that will assist researchers with intellectual property and copyright issues.	10	9	1
The library needs to improve the assistance it provides to researchers in the development of a data management plan.	12	7	2
The library needs to improve on their assistance to researchers in selecting suitable journals for publishing.	9	12	0
The library needs to improve their assistance to researchers in the use of metrics for measuring research impact.	10	11	0
The library needs to improve on services that regularly update researchers' professional information on all relevant academic platforms.	11	9	1
The library needs to expand their assistance to researchers when it comes to optimizing their visibility and expanding their research networks.	10	9	2
The library needs to improve the assistance provided to researchers in depositing research outputs to digital repositories.	10	9	2
The library needs to improve services related to the management of citations and references.	8	12	1

Figure 4.9 presents respondents' agreement that the library should improve on certain areas, while Figure 4.10 shows respondents' satisfaction with these areas.

**Figure 4.9 Areas that the library should improve on.**



**Figure 4.10 Areas that the library does not need to improve on.**



Figures 4.9 and 4.10 highlighted the following services as important for the library to improve on or to further expand:

- The library needs to improve on support services that assist researchers with the **identification of possible collaborators**. (12 Respondents – 57% agreed with this statement).
- The library needs to improve on services that assist researchers to **locate and access 'research related' information**. (12 Respondents – 57% agreed with this statement).
- The library needs to improve on services that assist researchers with the **management of collected information**. (12 Respondents – 57% agreed with this statement).
- The library needs to improve on the assistance it provides to researchers in the **development of a data management plan**. (12 Respondents – 57% agreed with this statement).

Three other aspects that have also been highlighted as important services for the library to improve on, but to a lesser degree, are the following:

- The library needs to improve on services that **provide access to a wide range of scholarly literature**. (11 Respondents – 52 % agreed with this statement).
- The library needs to improve on **services that assist researchers to stay up to date** with new information. (11 Respondents – 52% agreed with this statement).
- The library needs to improve on services that **regularly update researchers' professional information** on all relevant academic platforms. (11 Respondents – 52% agreed with this statement).

Aspects that were highlighted by fewer respondents but can still be considered important services for the library to improve on are the following:

- The library needs to expand those services that assist researchers with the identification of **funding opportunities**. (10 Respondents – 48 % agreed with this statement).
- The library needs to develop services that will assist researchers with **intellectual property and copyright issues**. (10 Respondents – 48 % agreed with this statement).
- The library needs to improve their assistance to researchers in the use of **metrics for measuring research impact**. (10 Respondents – 48 % agreed with this statement).
- The library needs to expand their assistance to researchers when it **comes to optimizing their visibility and expanding their research networks**. (10 Respondents – 48 % agreed with this statement).
- The library needs to improve the assistance provided to researchers in **depositing research outputs to digital repositories**. (10 Respondents – 48 % agreed with this statement).

Most of the areas that were highlighted by respondents as important services for the library to improve on correlate with the services that respondents identified as important individual research support services. The information gathering stage of the research cycle has, for example, been identified by respondents as the stage where they need and expect the library's support the most. At the same time, it is also mostly in this information gathering stage of the research cycle that respondents indicated that they would want the library to improve their services. For this reason, it seems that in order for the library to effectively respond to what researchers consider their support needs to be, it should continue to focus its services on those associated with the information gathering stage of the research cycle.

A number of services listed above were identified by respondents as services that they agreed the library should improve on or should develop, even though these are services that the library is already offering:

- Assistance with the identification of research collaborators
- Assistance with the development of a data management plan
- Assistance with services that regularly update researchers' professional information on all relevant academic platforms
- Assistance in the use of metrics for measuring research impact
- Assistance in updating researchers' professional information on all relevant academic platforms
- Assistance in optimizing their visibility and expanding their research networks
- Assistance in depositing research outputs to digital repositories

It would have been valuable to know why or in what way the respondents would want to see the library expanding and developing these services. It might be possible that respondents are not aware of the fact that the library already offers the services that they have listed as services the library should develop or expand. It might also be that they highlighted the above services as important services for the library to refine and market or even maybe need to provide training on.

The services that respondents identified as important services for the library to improve on and that the library is not offering as standard library services include the following:

- Assistance in the identification of funding opportunities
- Assistance and advice regarding intellectual property and copyright issues

On the other hand, respondents regarded the following service, also not currently being offered by the library, **as not important** for the library to improve on:

- the library does not need to develop services that assist researchers in choosing research topics.

#### **4.2.7 Challenges experienced during the research process (Question 9)**

The following aspects were mentioned by respondents as the most significant challenges that they experienced during the research process. The twenty responses received have been directly copied from responses received into the list provided below. Only one respondent did not reply to this question.

- *Funding*
- *Finding various sources for the literature chapter and writing it up. (The library staff were fantastic in their assistance in this matter).*
- *Gathering information and funding*
- *Accessing certain journal articles and referencing*
- *Time - to find time available in my work load*
- *Gathering Literature*
- *Getting enough valid information, not enough books available on some topics*
- *Managing my time and pursuing research/asking questions that can make a real impact in meeting the needs of our education students*
- *Getting access to the latest research articles*
- *Identifying the most suitable methodology*
- *Finalising a paper, making punctuation etc. changes, finding a journal.*
- *Citation of older sources*
- *Getting to, and writing the essence - there is so MUCH available, it is difficult to distil*
- *Accessing books that are not in local libraries*
- *Finding current literature addressing current issues*
- *Time management*
- *How to maximize utilisation of electronic resources in library*
- *Finding a research topic*
- *Having a librarian assigned and dedicated to you or the project.*
- *Data collection and funding for research.*



As listed above, four respondents (20%) mentioned the issue of time and time management as a challenge experienced during the research process. Two respondents (10%) mentioned funding as a significant challenge experienced. Nine respondents (45%) mentioned information-related aspects as a challenge experienced. Besides finding and collecting suitable information, four respondents (20%) mentioned access constraints as challenges experienced during the research process. One of the respondents mentioned the utilisation of the library's electronic resources as a significant challenge experienced during the research process. In future it will be important for the library to follow up on the above-mentioned issues as they fall directly within the library's sphere of responsibilities and research services offered.

#### **4.2.8 Further recommendations for the library to improve on the research support services it offers (Question 10)**

The following responses were received by respondents as further recommendations to improve the research support services the library offers:

- *Some fields not really covered, especially in connection with new books on certain topics. Have to rely on overseas bookshops to find certain information.*
- *No. I'm probably underutilising the library and its current resources.*
- *Keep up the good work, Wellington librarians helped me identify and access the most relevant literature for my PhD research.*
- *Develop a space dedicated to post grad students like a Research Commons.*

Nine respondents (43%) did not comment on this question. Eight respondents (38%) replied by answering 'no' or 'none' whilst only four respondents (19%) made recommendations, as listed above.

### **4.3 Focus group interview**

This section will focus on the analysis of the data that were collected through a focus group interview with CPUT's Research and Education Faculty librarians. The focus group interview assisted in comparing the differences and similarities in what emerging researchers regard as their most important support needs and those which librarians perceive as most important. It further aimed to determine the strengths and gaps in the support services offered by the library.

The participants were three Faculty Librarians employed at CPUT's Education Faculty libraries at the Mowbray and Wellington campuses as well as CPUT libraries' Research Librarian. This group of librarians provide research support to researchers on a daily basis – with three librarians specifically located within the Education Faculty and one (the Research Librarian) coordinating research support across all of CPUT's faculties. The Faculty Librarians and the Research Librarian are hierarchically on the same level on CPUT libraries' staff organogram; in theory, therefore, allowing for a free exchange of ideas during the interview. The focus group discussions were facilitated by the researcher and took place on Thursday the 31<sup>st</sup> of May 2018 at CPUT's Bellville branch library. (See Appendix B for the focus group interview schedule).

The focus group interview was designed as a semi-structured interview consisting of seven questions that focused on the research support needs of researchers as well as the research support services currently offered by the libraries. The research life cycle guided the design of the focus group interview. Participants voiced their opinions freely and participated enthusiastically in the discussions. The total duration of the interview was recorded and lasted for longer than an hour. Details of the discussions and the responses received will now be discussed.

#### **4.3.1 Responses to questions asked**

The first question asked was to deliberate on what the participants regarded as the most important research support needs of emerging researchers employed at CPUT's Faculty of Education.

The first participant to react (Participant A) identified the need for literature and information as emerging researchers' most important need: "The first thing that they really come to the library for is literature. They need to find literature and information and that is the first thing that they approach us for."

The second participant (Participant B) mentioned that emerging researchers often approach the library to do a "NRF-search" to ensure the originality of their research. This participant also mentioned assistance with referencing and citations as one the most important research support needs of emerging researchers. She agreed with the first participant about information support needs being the most important research support need. She further mentioned that recently a few researchers started to contact her requesting assistance with checking the credibility of journals that researchers are considering for future publishing.

The third participant (Participant C) supported the views of the previous two participants. She too mentioned that researchers require the library's support primarily for information-related purposes. In addition, she mentioned that researchers often contact her for guidance on how to establish a research identity through the creation of an ORCID identifier. According to the ORCID website, an ORCID identifier is: "a persistent digital identifier that distinguishes you from every other researcher and, through integration in key research workflows such as manuscript and grant submission, supports automated linkages between you and your professional activities ensuring that your work is recognized" (ORCID, n.d.)

Participant C also mentioned that researchers do not always know where to go with their research support needs: "They are not always sure when to turn to the library, when to go to the research directorate, when to go to the faculty's research coordinators and who to consult at which stage of their research process." She felt that especially emerging researchers often do not have a clear understanding of the specific roles and functions of the various research support options available to them.

With the next question (Question 2), participants were asked to state what they regarded as the most important/valuable research support services currently offered by CPUT's libraries.

Participant C was the first person to respond to this question and stated that she regarded the most important research support services offered by the library as being:

- The preservation of research outputs through institutional repositories
- The dissemination of research outputs
- Database subscriptions and information provision

The fourth participant (Participant D) agreed with the above-mentioned services listed by Participant C but added that the provision of information and information resources as well as exposure to the various databases that the library subscribes to are the most important services that the library offers: "The most important research support service that the library renders is providing information."

Participant A agreed with this and said: "In my experience information is what researchers first come to the library for." Participant A stated that as a faculty librarian she perceives "information provision" as her most important role and function. In support of what the previous participants had mentioned, she also highlighted the important role of the library in terms of database subscriptions. She

emphasised the important role that the library has to play in ensuring the effective and fruitful use of all the various databases they are subscribed to.

In addition to the aspects mentioned above, Participant A continued by highlighting what she regarded as emerging researchers in the Education Faculty's most significant challenge: "The most challenging thing for researchers is time – finding time for research. Because they have a huge teaching load – especially in the Education Faculty, time for research is so limited."

Finally, Participant B responded by stating that she agreed with everything mentioned by other participants. She added two further aspects. Firstly, she highlighted that researchers first and foremost come to the library when they need information support. In addition, she explained that because of a trust relationship that develops between the researcher and the librarian, some researchers end up coming to the librarian requesting research support that goes beyond the librarian's knowledge. This, for example, includes researchers requesting technical advice about research methods and theoretical frameworks. These queries are then referred back to supervisors or to the research coordinator because the librarian does not feel suitably equipped to answer them.

The second aspect that Participant B wanted to add was that she perceived Education Faculty researchers as being interested only in very specific 'chunks' of research support. They tend to seek support only when a specific research support aspect surfaces as an essential need: "When they are busy with the literature review, they only want to deal with that. They are only interested in what they need at a very specific stage of the research cycle. They are for example not interested in the data management part of the research process until it becomes absolutely critical for them to know more about it."

In conclusion, all participants mentioned that the library is often the researchers' first port of call for research-related enquiries and that they (the librarians) often have to redirect queries to more appropriate destinations: "They often come to us because we are 'the friendly face' in the research process and we often have to redirect the queries to the correct address."

In contrast with the previous question, Question 3 asked participants what they regarded as the least important research support services currently rendered by CPUT's libraries.

In response to this question, participants mentioned that libraries often buy tools and subscribe to digital services that are in line with national and international trends without consulting the researchers who are supposed to make use of them: “Libraries internationally tend to not listen to their researchers’ needs... We tend to exclude our researchers when we implement certain tools and systems. So we first implement systems and then we want to motivate researchers to adopt these tools and systems whilst actually it should work the other way round.”

Another aspect that was mentioned by all the participants was the so-called ‘duplication of services and demands’. Participants explained how researchers often receive similar instructions and requests from the libraries as from the research directorate. They explained how researchers consequently interpret these duplicated requests as being bombarded with demands from too many fronts. This results in researchers becoming unnecessarily frustrated with any research-related request. Participants mentioned the following examples of correspondence that were distributed to researchers by both the library and the research directorate:

- Requests to register for ORCIDs
- Request to develop data management plans for research projects.
- Requests to self-archive research outputs onto the Institutional Repository.

The above-mentioned scenario suggests that there is a lack of synergy between the library and other internal research support services.

Participants further mentioned that, in their opinions, Education Faculty researchers only comply with specific instructions, requests or requirements when it is absolutely essential: “Until it becomes essential for them to comply with something, they will not do it. A certain demand must first become an institutional or funding requirement before they [the researchers] will pay attention to it.”

In a final response to Question 3, Participant B mentioned the issue of awareness: “Researchers are often unaware of where the library fits in when it comes to research support. We should strive towards creating research forums which involve all the research support role players in order to provide a synchronised service that reduces confusion”.

Although a number of the responses received from the focus group members did not directly answer the question that was asked, they provided valuable insights into what the participants perceived as gaps in the current support services offered to researchers. The responses also identified possible extension services that the library might consider for future implementation.

In the next question (Question 4), participants were asked to rate the research support services currently offered by CPUT's libraries according to the following descriptions: excellent, standard or poor. Participants were asked to provide a motivation for their rating. Participants responded in the following ways:

All participants agreed that the research support services offered by the library can be rated as "good, not excellent but definitely good." Further comments received from participants included the following remarks: "We offer a good service to researchers because our clients usually come back and we often receive positive feedback from them." "We go the extra mile – even if we only do referrals we walk the extra mile." "Formal feedback systems might help us to effectively measure our successes and impact."

As a follow-up to the previous question, in Question 5 respondents were asked to state what they think the library could do to improve on the support services currently offered to researchers. One of the participants again mentioned the issue of awareness: "If more people know about our services more people will make use of our services."

This participant stated that, in her opinion, the library is often "reactive when it comes to research support services offered." She is of the opinion that the library needs to become proactively involved in research projects within the faculty. Moreover, this participant believes that the library should actively market its research support services. The other participants agreed with this statement.

In a final response to the question about the quality of support services offered by the library, Participant C again highlighted the importance of improved relations and cooperation between the library, the various research coordinators and the research directorate. Participant C is of the opinion that an improved cooperation between the various research functions would impact positively on the services that the library is currently offering its researchers.

In Question 6, participants' opinions were asked about the researchers who never approach the library for support: participants were asked what percentage of researchers they think regularly approach the library for support; about the kind of support that researchers most often request; and what they regarded as reasons that some researchers never contact the library for support.

All participants agreed that it is impossible for them to provide a percentage of researchers that regularly approach the library for support because of researchers' sporadic use of library services. It is only when they are publishing a paper and when they find time to do research that they approach the library for support. Participants further mentioned that the library does not have the right systems in place to be able to accurately calculate the percentage of researchers that regularly approach the library for support.

All participants agreed that it is mostly the technologically-skilled researchers who are inclined never to approach the library for support. In their opinion, technology impacts on researchers' dependence on the library's support. If researchers are technologically confident, they tend to use the library less.

Finally, for Question 6, participants listed the following services as the kind of research support for which they most frequently receive requests:

- Information provision
- Referencing support
- Assistance with clarifying the suitability and accreditation of journals considered for publishing

The last question, Question 7, requested participants' opinion regarding the statement that the library has a research support role to play throughout the entire research cycle. All participants agreed that the library definitely has a support function to fulfil throughout the entire research cycle.

#### **4.4 Individual interview**

The following discussion will focus on the analysis of the data that were collected through an interview with the Education Faculty's research coordinator who is based at the Wellington campus. The research coordinator's responses provided an opportunity to analyse the differences and similarities in what researchers regarded as their support needs compared to what the research coordinator perceived as researchers' support needs. In addition, the interview attempted to clarify the unique roles and responsibilities of the various entities involved in rendering CPUT's research support functions. (See Appendix C for the individual interview schedule).

Currently there are two research coordinators employed at CPUT's Education Faculty, one at the Mowbray campus and one at the Wellington campus. For the purpose of this study, the research coordinator who is based at the Wellington campus was interviewed. Apart from being responsible

for the coordination of all the Wellington-based research projects, this individual is also responsible for the coordination of the Wellington-based B.Ed. Honours course.

The individual interview was designed in a semi-structured way consisting of six questions. The interviewee contributed her opinions freely and the researcher obtained an understanding of the constraints and challenges that the research coordinator often experiences. The whole interview was recorded and lasted a little less than an hour.

#### **4.4.1 Responses to interview questions**

With the first question, the research coordinator was asked to explain her role and responsibilities in terms of supporting research. She explained that her job is different to most research coordinators employed at CPUT as she is involved in teaching and learning.

She then explained that she was appointed as research coordinator at the Wellington campus in 2013 because CPUT's management realised the need for a Wellington-based research coordinator. She explained that, when she was appointed as research coordinator, the instruction she received from the Education Faculty's Dean was: "to improve the research culture on the Wellington campus." This implied that she is not only responsible to improve academic staff members' research skills but also to change individuals' mind-set about the importance of research.

The research coordinator listed the following as her responsibilities in terms of supporting research:

- Research support in every aspect related to research according to requests received
- Editing of individuals' journal articles prior to submission
- Assistance with ethical clearance applications
- Assisting researchers with research proposals
- Critical reading of research documents before submissions.

The research coordinator summarised her role and function as follows: "I have a very strong admin function in terms of the documentation. But I also have a very supportive function because a lot of people come to me as their first port of call. They ask questions like, where do I go now? How do I go about submitting an article? How do I go about with the feedback that I get – all those kind of queries."



The research coordinator also highlighted the additional research support functions that she has developed over the years. These include the facilitation of a postgraduate workshop series that is offered once a month on a Saturday as well as the facilitation of a supervisors' support group.

An important support service that the research coordinator mentioned is the facilitation of the staff development sessions every Tuesday morning in the Education Faculty's staffroom. She explained how she uses this opportunity to talk to the education staff about research-related concepts and technicalities that they would not otherwise be exposed to. In conclusion, she summarised her role as being linked to academic staff's exposure to research and the consequent establishment of a research culture.

The research coordinator was then asked to explain how her role and function differ from the support services offered by the research office (Question 2). She explained that the research office's responsibilities are mostly on an administrative and regulatory level whereas her responsibilities are on a supportive level. She explained that her role is more of a supportive and advisory role than that of the research office.

In Question 3, the research coordinator was asked to explain what she regarded as the emerging researchers at the Education Faculty's most important research support needs. Her response was as follows: "Their needs are more on an exposure level. They need to be exposed to different research methods, mentoring with people and acting as co-supervisors to learn about all the various research processes."

In her opinion, research always includes a knowledge as well as a practical component: "research is all about knowing and doing." She feels that in order to improve their research skills, emerging researchers need to be exposed to the knowledge components as well as the practical components of research.

As a follow-up to the third question, the researcher coordinator was asked to explain what she regarded as the library's most important support services offered to the Education Faculty's emerging researchers. She replied that the libraries' support involves an information function which she regards as the library's most important support service. That is, finding, locating and accessing the most suitable information that researchers need in order to fulfil research tasks.

Apart from mentioning the library's information support, she was astonished to realise that she was unfamiliar with the additional research support services the library offers: "To be totally honest I don't actually know what the library's function would be - that is interesting. I'm not sure what the library has to offer aside from the search and find function..."

In response to the above-mentioned realisation, the research coordinator stated that this needed to be reported and addressed urgently. As an immediate corrective measure she decided to invite the library staff to one of the staff development sessions. She is of the opinion that it would be a good start if the librarians could explain to the academic staff members what the library has to offer in terms of research support services.

In the fifth question, the research coordinator was asked how, in her opinion, the library could possibly be better aligned to other research support services offered within the institution. She stated that the library and the research coordinator definitely needed to have further discussions. She suggested quarterly meetings between herself (as research coordinator) and the library as a first strategy to improve the alignment of research support services offered at the Wellington campus.

The research coordinator also suggested that the library and she should work more closely in future. She recommended that the library become actively involved in the Education Faculty's research projects as well as in the facilitation of research-related training sessions and workshops.

Lastly, the research coordinator was asked to indicate whether she was of the opinion that the support needs of the emerging researchers at CPUT's Faculty of Education differ from other social sciences researchers' support needs.

In response to this question, the research coordinator mentioned that she regarded education researchers' support needs as more complex than that of other social sciences because they pivot on ethics. She explained that educational research fundamentally differs from other social sciences research in that it often involves children and, when children are involved in research, one has to think extra carefully about the risks and dangers involved.

#### **4.5 Triangulation of the data**

The process of triangulation is often used in case study research as an instrument to assist researchers in achieving high quality research findings. This is generally achieved through the use of multiple

research sources and multiple data collection methods (Rule & John, 2011:108). The multiple use of data sources and data collection methods assists in reducing inaccuracies and bias whilst at the same time it aims to strengthen the validity of the findings (Rule & John, 2011:108).

Triangulation according to Simons (2009:129) is “a means of cross-checking the relevance and significance of issues or testing out arguments and perspectives from different angles.” Triangulation, through the use of multiple data sources, not only assists in providing varied perspectives to the research questions asked but also assists in providing a deeper understanding of the case being studied (Simons, 2009:129).

The data collection methods that were used in this case study included:

- The distribution and collection of questionnaires to emerging researchers employed at CPUT’s Faculty of Education
- The facilitation of a semi-structured focus group interview with CPUT’s Research and Education Faculty Librarians
- Conducting a semi-structured interview with the research coordinator for CPUT’s Education Faculty who is based at the Wellington campus

Because the researcher did not duplicate the questions asked in the various data collection methods, the data cannot be compared question by question. Instead, important themes will be compared and contrasted.

In each of the data collection methods used, the fact that libraries are mainly associated with the provision of information support surfaced as a theme. Ninety percent of the respondents to the online questionnaire indicated information support as the most important support function that they expect the library to fulfil. Participants of the focus group also identified information provision as the library’s most important research support function. The research coordinator identified the library’s most important research support function as that of information provision. All respondents and participants of this study mostly associated libraries with the provision of information-related services.

In all three datasets that were analysed, the uncertainties associated with the roles and responsibilities of the various research support functions surfaced as a recurring theme. Responses received to the online questionnaire suggested researchers’ uncertainty around the support functions associated with each of the various research support entities. For example, in question 8 of the online

questionnaire a number of respondents mentioned services that they wanted the library to develop or expand on whilst most of the services that they mentioned are services that the library is already offering. Correspondingly, focus group interviewees as well as the research coordinator confirmed emerging researchers' confusion about which support function to consult at which stage of the research cycle.

In addition, the group of librarians as well as the research coordinator both experienced being emerging researchers' first port of call when it comes to research-related queries. Both groups of individuals mentioned that they often have to fulfil a 'referral' function. This confirms that researchers are uncertain which support function is available to them at each stage and from whom.

Another theme that recurred in each of the datasets refers to actions associated with the promotion of libraries' research support services. Respondents to the questionnaire as well as participants in the interviews highlighted that libraries needed to promote the research support services that they offer. Through the data analysis it became clear that researchers as well as research support colleagues feel uninformed about the various research support services the library has to offer.

A last theme that can be mentioned as occurring in more than one of the datasets is the aspect of closer cooperation between the various internal research support functions. Although this aspect was not explicitly mentioned by respondents of the online questionnaire it was however strongly surfaced during the focus group interview and also during the individual interview. The group of librarians as well as the research coordinator suggested that the various research support services should synchronise the services they offer. Participants suggested the establishment of a research forum as well as closer cooperation with research coordinators as possible solutions to the lack of synergy amongst the various research support functions. They suggested that this would not only impact positively on the research support services that they render but also on researchers' productivity.

A final matter that surfaced as a recurring theme and an important challenge experienced by emerging researchers is researchers' limited time available for research. Education Faculty researchers have a vast load of teaching responsibilities that often limit the time they have for research projects. Participants in all of the data collection methods mentioned this aspect as an important challenge experienced by Education Faculty researchers during the research process.

In the end, the data collected from the respective interviews as well as the data collected from the survey questionnaire were compared and contrasted. The data collected were used to create a comprehensive and reliable list of the research support expectations of emerging researchers.

#### **4.6 Conclusion**

For the purpose of triangulation, data was collected from various individuals through the use of different data collection methods. This was done to create a deeper understanding and a nuanced interpretation of the research support needs of emerging researchers employed at CPUT's Faculty of Education. In the last chapter, the data that were collected then compared and contrasted through triangulation, will be used to produce a well-validated and comprehensive list of the most important research support services that should be provided for emerging researchers at CPUT's Faculty of Education.

In addition, the collected data will be used to reach conclusions about the Education Faculty librarians' as well as about the Research Coordinator's perceptions of the support needs of emerging researchers. In conclusion, the insights gained through this study will be used to compile suggestions that might be considered for future support expansions.

## **Chapter 5: Discussion of main findings, recommendations and conclusion**

### **5.1 Introduction**

Faculty perceptions are powerful, independent indicators of how relevant library services are to an institution's research enterprise; these indicators can and should be used to improve professional practice, build productive partnerships, and exhibit institutional value (Hollister & Schroeder, 2015:2).

According to this quote, academic libraries are increasingly required to determine what their community of researchers' perceptions and expectations of libraries' support services are. Knowledge and an understanding of faculty members' perceptions and expectations assist academic libraries to develop specialised and relevant research support services at every stage of the research cycle (Corrall, 2014:18).

The first objective of this study was to determine the research support needs of emerging researchers at the CPUT's Faculty of Education, from their perspective. These support needs were investigated within the context of the kind of research support they expect the library to provide. Data about emerging researchers' support needs and expectations were collected via self-administered online questionnaires. The research life cycle guided the design of the online questionnaires.

The second objective of this study was to determine what the faculty and research librarians as well as the research coordinator of the Education Faculty at CPUT regarded as the most important research support needs of emerging researchers. This objective was reached by collecting and analysing data obtained via a focus group interview with the group of librarians and through a face-to-face interview with the Education Faculty's research coordinator. Data collected from the focus group interview and from the individual interview were investigated within the context of researchers' expectations of the kind of support services they expect from the library.

In order to provide relevant research support services, it is important for libraries and other research support providers to determine whether their perceptions regarding researchers' support needs correspond with researchers' real needs. Through this investigation, the researcher intended to determine whether emerging researchers' support needs and expectations correspond with research support providers' perceptions of emerging researchers' most important support needs and expectations. This was done with the third and final objective in mind.

The final objective of this study was to create a comprehensive list of the most important research support services that should be provided for emerging researchers at CPUT's Education Faculty.

This chapter will highlight the main findings of the study in accordance with the research objectives described above. Following the discussion of the study's main findings and the compilation of a list of research support expectations, the chapter will end with conclusions and recommendations for future initiatives.

## **5.2 Discussion of main findings**

Due to advances in technology and changing research demands, it is important for academic libraries to rethink the services they offer to researchers (Corrall, 2014:17). In rethinking these services, it is necessary for libraries to determine what researchers need and expect from libraries. This knowledge will assist in the design and development of research support services that fulfil researchers' needs and expectations. This study determined the following regarding emerging researchers' support needs and expectations.

### **5.2.1 Emerging researchers' support needs as discovered through the online questionnaire**

An online questionnaire, based on the various stages of the research life cycle, enquired about emerging researchers support expectations and needs throughout the entire research cycle. Within each stage of the research cycle, emerging researchers identified the following research support needs and expectations:

- Stage 1: The ideas development and planning stage of the research cycle. Forty-two percent of respondents agreed that they need the library's support in some way at this stage of their research.
- Stage 2: The information gathering stage of the research cycle. Ninety percent of respondents agreed that they need the library's support in some way at this stage of their research.
- Stage 3: The research process stage of the research cycle. Sixty-seven percent of respondents agreed that they need the library's support in this stage.
- Stage 4: The dissemination stage of the research cycle. Sixty-seven percent of respondents agreed that they need the library's support in this stage.
- Stage 5: The measuring stage of the research cycle. Fifty-one percent of respondents agreed that they need the library's support in this stage.

Emerging researchers identified services rendered during the information gathering stage of the research cycle as the most important research support services expected from the library. This deduction is made by using the results shown in Table 4.4 as a guide. Out of the entire survey, this stage received the highest number of respondents who agreed that they required the library's support during the stage in question. A similar study, implemented at CPUT by Hart and Kleinveldt (2011:48), confirmed that the library services most extensively used by CPUT's researchers are information-related services (access to e-resources, borrowing of print-resources and inter-library loan services).

The insights gained through this study confirmed that emerging researchers employed at CPUT's Faculty of Education still regard 'traditional library services' – referring to information-provision services – as libraries' most important research support function.

### **5.2.2 Emerging researchers' most important support needs according to librarians**

The group of faculty and research librarians identified the following aspects as emerging researchers' most important support needs:

- Locating and accessing information
- Information provision through database subscriptions and database searches
- Managing references and citations
- Depositing researchers' outputs in digital repositories
- Updating researchers' professional information on relevant websites and platforms
- Identifying suitable journals for publishing

All focus group participants felt that emerging researchers' most important research support needs, in terms of library services, were the provision of information and support in locating and accessing the most relevant information sources. This corresponds with what emerging researchers identified as their most important support expectations.

### **5.2.3 Emerging researchers' most important support needs according to the Education Faculty's research coordinator**

According to the Education Faculty's research coordinator, the most important support service that emerging researchers expect the library to provide is information support. In fact, she regarded the provision of information as the only support service the library provides to the Education Faculty's researchers.



All participants in this study (emerging researchers, faculty librarians and the research coordinator), regarded the provision of information support as the library's most important research support function. There were, however, other services that emerged as necessary, as discussed below.

#### **5.2.4 The most important services that should be provided for emerging researchers at CPUT's Faculty of Education.**

Following the analysis and interpretation of data collected through this study and presented in chapter 4, the researcher compiled a list of the most important research support services that the library should provide for emerging researchers at CPUT's Faculty of Education. These services were identified by emerging researchers, librarians and the Research Coordinator, and are listed according to priority and therefore range from services which were regarded as most important to those regarded as unimportant. They are presented in Table 5.1.

**Table 5.1**  
**Services that should be provided for emerging researchers at CPUT's Faculty of Education**

<b>Essential</b> research support services	<p>Participants identified the following as <b>essential support services</b> that the library should provide:</p> <ul style="list-style-type: none"> <li>• Locating and accessing information</li> <li>• Keeping up to date with new information published in researchers' field of interest</li> <li>• Constructing complex searches to find the most suitable electronic and print resources available</li> <li>• Managing datasets and making them discoverable for future use</li> </ul>
<b>Important</b> research support services	<p>Participants identified the following as <b>important support services</b> that the library should provide:</p> <ul style="list-style-type: none"> <li>• Managing collected information</li> <li>• Development of data management plans</li> <li>• Managing citations and references</li> <li>• Support with intellectual property and copyright issues</li> <li>• Depositing research outputs in digital repositories</li> </ul>
<b>Useful</b> research support services	<p>Participants identified the following as <b>useful support services</b> that the library should provide:</p> <ul style="list-style-type: none"> <li>• Using metrics to decide where to publish</li> <li>• Updating researchers' professional information on relevant websites and platforms</li> <li>• Optimizing researchers' visibility and expanding their research networks</li> <li>• Identifying collaborators</li> <li>• Identifying suitable open access journals for publishing</li> <li>• The use of metrics to demonstrate researchers' scholarly impact</li> <li>• Managing copyright issues</li> <li>• Tracking researchers' research impact</li> <li>• Identifying funding opportunities</li> <li>• Assistance in choosing a research topic</li> <li>• Selecting suitable accredited journals for publishing</li> </ul>
<b>Unimportant</b> research support services	<ul style="list-style-type: none"> <li>• Formulating a research question</li> <li>• Obtaining ethical clearance</li> </ul>

The above list of library support expectations confirms the traditional view of academic libraries' role as being mostly associated with providing information support. Researchers mostly expect and demand library support services in the information gathering stage of the research cycle. The group

of faculty and research librarians as well as the Education Faculty's research coordinator agreed that the library's most important research support function is during the information gathering stage of the research cycle. The 'unimportant' research support services are those traditionally provided by a supervisor or a faculty.

The literature on research support services offered by academic libraries mentions a number of 'new' or expanded services that go beyond the traditional information services. Raju and Schoombee (2013:28) considered research data management, curation and preservation, support for Open Access practices and bibliometrics to be 'new' research support services that can be offered by academic libraries.

An adjustment in librarians' perceptions of libraries' research support function may contribute towards a change in researchers' perceptions of the library's research support role and function. The research life cycle model that was used as conceptual framework in designing this study's online questionnaire is a useful tool for libraries to use in promoting research support services during all the stages of the research cycle. At CPUT, for example, especially emerging researchers could be offered support in all the stages of the research cycle – from the planning stage through to the measuring stage. Their relative newness to research might make them more open to using the library for less traditional support needs.

### **5.3 Conclusions**

Research outputs are very important and contribute to the status, profile and funding allocations of academic institutions. This confirms the importance of academic libraries' effective support to their community of researchers (Atkinson, 2016:135).

To remain relevant and to support researchers, it is important for academic libraries to enquire about their researchers' support needs and expectations continuously (Wiklund & Voog, 2013:1). To promote the provision of relevant services, academic libraries must identify the needs and expectations of specific client groups (Atkinson, 2016:135).

In this study, emerging researchers employed at CPUT's Faculty of Education were identified as a client group whose needs and expectations were investigated. As explained in the background of the study (chapter 1), this group of researchers' support needs were investigated in light of the inherited research backlog experienced at UoTs and in particular in these institutions' Education Faculties. The

study obtained a renewed understanding of the needs and expectations of this group. This understanding will be useful for the library which wishes to provide research support services that are aligned to its community of researchers' unique research support needs and which aims to efficiently support their research production and to increase their research output. A renewed understanding of researchers' perceptions and expectations of the library's research support function will assist the library in the design and implementation of future research support expansions.

To this end, this study produced a list of the most important support services that should be provided for emerging researchers at CPUT's Faculty of Education. The study will be concluded with recommendations based on the data that were collected and on the literature that was reviewed.

## **5.4 Recommendations**

Research publications dating as far back as the early 1980s have emphasised the need for librarians to "move beyond traditional levels of service, and to assume more proactive roles in faculty research" (Hollister & Schroeder, 2015:3). As a result of the insights gained through this study, the researcher recommends the following service initiatives for future implementation by the library:

### **5.4.1 Creating awareness**

Vaughan et al. (2013:310) suggest that librarians should make an effort to enhance their visibility among researchers, being "present in the research environment for them to be engaged by researchers" (Vaughan et al., 2013:310). Several of the respondents who participated in this study mentioned the importance of librarians' visibility and presence in the research environment. A focus group participant commented that librarians should make a definite effort to create an awareness amongst researchers of the broad range of research support services offered by the library. It is important for academic libraries to make researchers aware of the full spectrum of support services they offer.

### **5.4.2 Marketing**

Traditionally, libraries were not geared for the proactive marketing of their services. Since the growth of the internet and the ensuing demand for libraries to prove their value, the effective marketing of libraries' services became increasingly important. Through the implementation of marketing initiatives, academic libraries can make sure that their research support services are more visible, accessible and developed in order to meet their researchers' needs and expectations (Wiklund & Voog, 2013:6). At a recent research data management workshop hosted by CPUT libraries, researchers

indicated they were unaware of the library's data management services (which have been in place since 2017). This is an indication of the importance of libraries' marketing of their research services.

### **5.4.3 Training**

Atkinson (2016: 137) reminded academic libraries how important it is for librarians to train researchers in fields in which it is required. A blanket approach cannot be implemented as researcher-training should to be geared towards their specific needs. Emerging researchers' responses in the questionnaire indicated their need for training and exposure to specific components of the research cycle such as training on how to maximise the use of the library's electronic resources.

During the interview the Education Faculty's research coordinator suggested that the library should be invited to participate in the staff development sessions presented to all academic staff employed at the Education Faculty's Wellington campus. It is important for the library to embrace opportunities like this because it is an ideal opportunity it to promote the various research support services it has to offer. Ideally these training sessions should be developed into annual training sessions with the objective to create follow-up individual or small group training opportunities for researchers.

### **5.4.4 Partnerships**

Partnerships and closer cooperation between institutional research support providers were suggested by participants of the focus group and by the research coordinator.

The issue of possible partnerships and closer cooperation surfaced as a recurring theme during the triangulation of the data. The poor synergy amongst institutional research support units was mentioned by faculty librarians as well as the research coordinator. Participants were of the opinion that the lack of cooperation between institutional research support functions results in confusion amongst researchers and the unsuccessful communication of important research-related matters. In future it will be important for the library to take the initiative in creating closer partnerships with the various research support units. Participants of the focus group suggested the establishment of an interdepartmental research forum as a possible solution.

### **5.4.5 The research life cycle model as a framework**

Vaughan et al. (2013: 313) argued that: "By basing the research support service model on the research life cycle, the library is then poised to be a partner through the entire process, not just at the bookends of research." As used in this study, the research cycle can be an effective framework for libraries to

use when designing future research-related projects such as user surveys, marketing strategies and online guides or tutorials. As an employee at CPUT libraries, this researcher can use the expertise gained during the course of this study to advise in designing and providing research support to especially emerging researchers employed at CPUT's Faculty of Education.

### **5.5 Future studies**

A suggestion for future studies is the implementation of a needs analysis for established researchers at CPUT's Education Faculty. It would be valuable to compare the differences and similarities between the support needs and expectations of emerging and established researchers within the same faculty thus creating a holistic understanding of the research support needs of all researchers within a faculty. Services that are consequently implemented or expanded can be specifically directed at the different groups, if needs be.

### **5.6 Final remark**

Academic libraries have an indispensable role to play in providing research support services. Academic libraries have an obligation to identify the gaps in the research support services they render. After having identified these gaps, libraries should provide research support services through all the stages of the research cycle, aligned with researchers' unique support needs. In the end, the quality of the research support services that libraries provide directly impacts on the productivity and success of their researchers and on their academic institutions' success.

Through the collection of data obtained via online questionnaires, a focus group interview and an individual interview, this study reached an improved understanding of the research support needs and expectations of emerging researchers at CPUT's Faculty of Education.

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## Appendices:

### Appendix A: Electronic Questionnaire

1/13/2019

Research support needs questionnaire

#### Research support needs questionnaire

Thank you for agreeing to participate in this research project by completing this questionnaire. It should take you no more than 15 minutes to complete. The questionnaire aims to determine the research support needs of emerging researchers employed at CPUT's Faculty of Education. Your response will assist to determine the details of your research support needs through the research cycle. It further aims to determine the strengths and gaps in the support services offered by the library.

Data collected shall be treated confidentially and your personal details collected are anonymous.

Please feel free to contact Christel Oosthuizen ([ostchr003@myuct.ac.za](mailto:ostchr003@myuct.ac.za)) should you have any questions.

\* Required

#### Participation agreement: Please read through the following statements

---

I understand the purpose of the research

I agree to participate in the research

I understand why I was selected to participate

I understand that there will not be discriminated against me as a result of my participation/non-participation

I understand that data collected shall be treated confidentially and that personal details collected are anonymous

I understand that I am under no obligation to take part in this project

**1. I agree with all the above mentioned statements \***

*Mark only one oval.*

☐ Yes

☐ No *Stop filling out this form.*

#### 1. Demographic details:

**2. 1.1. At which campus are you situated? \***

*Mark only one oval.*

☐ Mowbray Campus

☐ Wellington Campus

**3. 1.2. Highest qualification obtained? \***

*Mark only one oval.*

☐ B-degree

☐ Honors Degree

☐ Masters

☐ PhD

☐ Post PhD

☐ Other: \_\_\_\_\_



**4. 1.3. How long ago did you obtain this degree? \****Mark only one oval.*

- ☐ 1-2 years ago
- ☐ 3-5 years ago
- ☐ 5-7 years ago
- ☐ More than 7 years ago

**2. Research profile:****5. 2.1. Are you currently pursuing another degree?***Mark only one oval.*

- ☐ Yes
- ☐ No

**6. 2.2 If yes, please specify:**

---

**7. 2.3. How many papers have you presented/co-presented at National Conferences? \****Mark only one oval.*

- ☐ None
- ☐ 1-2 papers
- ☐ 3- 5 papers
- ☐ 6- 8 papers
- ☐ 9- 10 papers
- ☐ More

**8. 2.4. How many papers have you presented/co-presented papers at International Conferences? \****Mark only one oval.*

- ☐ None
- ☐ 1-2 papers
- ☐ 3 -5 papers
- ☐ 6 - 8 papers
- ☐ 9 - 10 papers
- ☐ More

**9. 2.5. How many journal articles have you published/co-published? \****Mark only one oval.*

- ☐ None
- ☐ 1- 2 articles
- ☐ 3- 5 articles
- ☐ 6- 8 articles
- ☐ 9- 10 articles
- ☐ More

**10. 2.6. How many book chapters have you published/ co-published? \****Mark only one oval.*

- ☐ None
- ☐ 1- 2 chapters
- ☐ 3- 5 chapters
- ☐ 5- 8 chapters
- ☐ 9- 10 chapters
- ☐ More

**11. 2.7. Apart from the examples listed above, have you been involved in the production of any other form of scholarly output? Please specify \***

---

*Skip to question 12.***3. Research support in the ideas and planning stage:**

Please indicate the support that you require from the library during the ideas development and planning stage of your research:

**12. 3.1. I need the library's support in choosing a research topic \****Mark only one oval.*

- ☐ Agree
- ☐ Neutral
- ☐ Disagree

**13. 3.2. I need the library's support in formulating a research question \****Mark only one oval.*

- ☐ Agree
- ☐ Neutral
- ☐ Disagree

**14. 3.3. I need the library's support in identifying collaborators \****Mark only one oval.*

- ☐ Agree
- ☐ Neutral
- ☐ Disagree

**15. 3.4. I need the library's support in identifying funding opportunities \****Mark only one oval.*

- ☐ Agree
- ☐ Neutral
- ☐ Disagree

*Skip to question 16.***4. Research support in the information gathering stage**

Please indicate the support that you require from the library during the information gathering stage of your research:

**16. 4.1. I need the library's support to locate and access the information that I need. \***

*Mark only one oval.*

- ☐ Agree  
☐ Neutral  
☐ Disagree

**17. 4.2. I need the library's support in keeping up to date with new information published in my field of interest. \***

*Mark only one oval.*

- ☐ Agree  
☐ Neutral  
☐ Disagree

**18. 4.3. I need the library's support in constructing complex searches that will help me find the most suitable electronic and print resources available. \***

*Mark only one oval.*

- ☐ Agree  
☐ Neutral  
☐ Disagree

**19. 4.4. I need the library's support to manage the collected information. \***

*Mark only one oval.*

- ☐ Agree  
☐ Neutral  
☐ Disagree

*Skip to question 20.*

## **5. Research support when conducting the research**

Please indicate the support that you require from the library during the stage that you are conducting the research:

**20. 5.1 I need the library's support with copyright and intellectual property issues**

*Mark only one oval.*

- ☐ Agree  
☐ Neutral  
☐ Disagree

**21. 5.2. I need the library's support with managing citations and references**

*Mark only one oval.*

- ☐ Agree  
☐ Neutral  
☐ Disagree

**22. 5.3. I need the library's support in developing a data management plan***Mark only one oval.*

- ☐ Agree  
☐ Neutral  
☐ Disagree

**23. 5.4. I need the library's support in managing my datasets and making them discoverable and available for future use***Mark only one oval.*

- ☐ Agree  
☐ Neutral  
☐ Disagree

**24. 5.5. I need the library's support with the processes involved in obtaining ethical clearance for my research***Mark only one oval.*

- ☐ Agree  
☐ Neutral  
☐ Disagree

*Skip to question 25.***6. Research support in the dissemination stage:**

Please indicate the support that you require from the library when you start publishing and disseminating your research outputs.

I need the library's support with:

**25. 6.1. Selecting suitable accredited journals for publishing***Mark only one oval.*

- ☐ Always  
☐ Sometimes  
☐ Never

**26. 6.2. Identifying suitable open access journals to consider for publishing***Mark only one oval.*

- ☐ Always  
☐ Sometimes  
☐ Never

**27. 6.3. The managing of copyright issues***Mark only one oval.*

- ☐ Always  
☐ Sometimes  
☐ Never

**28. 6.4. Depositing my work in digital repositories***Mark only one oval.*

- ☐ Always  
☐ Sometimes  
☐ Never

**29. 6.5. The use and implications of various licenses e.g. Creative Commons Licensing.***Mark only one oval.*

- ☐ Always  
☐ Sometimes  
☐ Never

**7. Research support at the stage when the research impact is measured**

Please indicate the support that you require from the library when you start publishing and disseminating your research outputs.

I need the library's support with:

**30. 7.1. Tracking my research impact***Mark only one oval.*

- ☐ Always  
☐ Sometimes  
☐ Never

**31. 7.2. The use of metrics to demonstrate my research's impact***Mark only one oval.*

- ☐ Always  
☐ Sometimes  
☐ Never

**32. 7.3. Using metrics to decide where to publish***Mark only one oval.*

- ☐ Always  
☐ Sometimes  
☐ Never

**33. 7.4. Updating my professional information on relevant websites and platforms (for example, ResearchGate and ORCID)***Mark only one oval.*

- ☐ Always  
☐ Sometimes  
☐ Never

**34. 7.5. Optimizing my visibility and to expand my research network***Mark only one oval.*

- ☐ Always  
☐ Sometimes  
☐ Never

*Skip to question 35.***8. Library support expansions**

Of all the research support services mentioned above, in which area would you like to see the library expanding/developing the services that it offers.

**35. 8.1. The library needs to develop services that assist researchers in choosing research topics.***Mark only one oval.*

	1	2	3	
Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disagree

**36. 8.2. The library needs to improve on services that provide access to a wide range of scholarly literature.***Mark only one oval.*

	1	2	3	
Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disagree

**37. 8.3. The library needs to develop services that assist researchers with the identification of possible collaborators.***Mark only one oval.*

	1	2	3	
Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disagree

**38. 8.4. The library needs to expand those services that assist researchers with the identification of funding opportunities.***Mark only one oval.*

	1	2	3	
Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disagree

**39. 8.5. The library needs to improve on services that assist researchers to locate and access 'research related' information.***Mark only one oval.*

	1	2	3	
Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disagree

40. **8.6. The library needs to improve on services that assist researchers to stay up to date with new information.**

Mark only one oval.

	1	2	3	
Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disagree

41. **8.7. The library needs to improve on services that assist researchers with the management of collected information.**

Mark only one oval.

	1	2	3	
Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disagree

42. **8.8. The library needs to develop services that will assist researchers with intellectual property and copyright issues.**

Mark only one oval.

	1	2	3	
Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disagree

43. **8.9. The library needs to improve the assistance it provides to researchers in the development of a data management plan.**

Mark only one oval.

	1	2	3	
Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disagree

44. **8.10. The library needs to improve on their assistance to researchers in selecting suitable journals for publishing.**

Mark only one oval.

	1	2	3	
Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disagree

45. **8.11. The library needs to improve their assistance to researchers in the use of metrics for measuring research impact.**

Mark only one oval.

	1	2	3	
Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disagree

46. **8.12. The library needs to improve on services that regularly update researchers' professional information on all relevant academic platforms.**

Mark only one oval.

	1	2	3	
Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disagree

47. 8.13. The library needs to expand their assistance to researchers when it comes to optimizing their visibility and expanding their research networks.

Mark only one oval.

1 2 3  
Agree ☐ ☐ ☐ Disagree

48. 8.14. The library needs to improve the assistance provided to researchers in depositing research outputs to digital repositories.

Mark only one oval.

1 2 3  
Agree ☐ ☐ ☐ Disagree

49. 8.15. The library needs to improve services related to the management of citations and references.

Mark only one oval.

1 2 3  
Agree ☐ ☐ ☐ Disagree

50. 8.16. Are there any further comments or suggestions that you would like to add?

---

## Open questions

51. 9. What are the most significant challenges that you experience during the research process?

---

52. 10. Do you have any further recommendations for the library to improve on the research support services offered.

---

---

---

---

**Thank you very much for taking the time to complete this questionnaire. Your inputs are valued and highly appreciated.**  
**The student – Ms Christel Oosthuizen**

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## Appendix B: Focus Group Interview schedule



UNIVERSITY OF CAPE TOWN  
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

Faculty of Humanities

Department of Library and Information Studies

### Focus Group Interview: Faculty Librarians

1. What do you regard as the most important research support needs of the emerging researchers at CPUT's Faculty of Education? Please elaborate.
2. What do you regard as the most important/valuable research support services that the libraries are currently offering to its researchers? Please motivate
3. What do you regard as the least important research support services that the libraries are currently rendering? Please motivate
4. How would you rate the research support services currently rendered by the library – excellent, standard or poor? Please motivate your answer.
5. In your opinion how can the library improve on the support services offered to researchers?
6. Some researchers make use of the support services that the library offers but others never approach the library for support.
  - a. What percentage of researchers, do you think, approach the library for support?
  - b. What kind of support do they most frequently request?
  - c. What do you think are the reasons why some researchers do not make use of the research support services that the library has to offer?
7. Do you agree that the library has a research support role to play throughout the entire research cycle? Please motivate.

## Appendix C: Individual Interview



UNIVERSITY OF CAPE TOWN  
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

Faculty of Humanities

Department of Library and Information Studies

### Individual Interview: Research Coordinator

1. Please explain what is your role and responsibilities in terms of supporting research?
2. How does your role and function differ from the support services offered by the research office?
3. What do you regard as emerging researchers at the Faculty of Education's most important research support needs? Please elaborate.
4. What do you regard as the library's most important support services offered to researchers? Please elaborate.
5. How could the library's research support services possibly be better aligned with other research support services offered within the institution?
6. Are you of the opinion that the support needs of the emerging researchers at CPUT's Faculty of Education differ from other social sciences researchers' support needs? Please motivate your answer.

## Appendix D: UCT's Ethical Clearance Certificate



### Library and Information Studies Centre

University of Cape Town  
Upper Campus

Private Bag X1, RONDEBOSCH, 7701 South Africa  
Level 6 Hlanganani, The Chancellor Oppenheimer Library  
Tel: +27 (0) 21 650 4546 Fax: +27 (0) 21 650 2529  
E-mail: [lisc@uct.ac.za](mailto:lisc@uct.ac.za)  
Internet: [www.lib.uct.ac.za/lisc](http://www.lib.uct.ac.za/lisc)

Ref No.: UCTLIS2017803-02

17 March 2018

Ms Christel Oosthuizen  
Library and Information Studies Centre  
Chancellor Oppenheimer Library  
University of Cape Town

### Ethics approval for Master's research

Dear Ms Oosthuizen

I am pleased to inform you that ethics clearance has been granted by an Ethics Review Committee of the Library and Information Studies Centre, Faculty of Humanities, for you to proceed with collecting data for your Master's study on '**Determining the research support needs of emerging researchers at CPUT's Faculty of Education**'.

As a next step, please ensure that you obtain approval from the ethics committee to collect data at your data collection site, as necessary.

We wish you well with your data collection and the completion of your research.

Yours faithfully,

Mr Richard Higgs  
Chair: Department (LISC) Research Ethics Committee

## Appendix E: CPUT's Ethical Clearance Certificate



***For office use only	
Date submitted	27 March 2018
Meeting date	n/a
Approval	P/Y✓/N
Ethical Clearance number	EFEC 2-4/2018

### FACULTY OF EDUCATION

### RESEARCH ETHICS CLEARANCE CERTIFICATE

This certificate is issued by the Education Faculty Ethics Committee (EFEC) at Cape Peninsula University of Technology to the applicant/s whose details appear below.

#### 1. Applicant and project details (Applicant to complete this section of the certificate and submit with application as a Word document)

Name(s) of applicant(s):	Christel Oosthuizen	
Project/study Title:	Determining the research support needs of emerging researchers at CPUT's Faculty of Education.	
Is this a staff research project, i.e. not for degree purposes?	It is for degree purposes	
If for degree purposes the degree is indicated:	M.LIS: Masters Library and Information Studies (UCT)	
If for degree purposes, the proposal has been approved by the FRC	YES – It has been approved by UCT's Research Committee of the Faculty of Humanities. Also, ethics clearance has been granted by the Ethics Review Committee of UCT's Library and Information Studies Centre (see ethics approval letter attached at the end of the ethical clearance application document).	
Funding sources:	N/A	

#### 2. Remarks by Education Faculty Ethics Committee:

2. Remarks By Education Faculty Ethics Committee:		
This Master's research project is granted ethical clearance valid until 12 April 2020.		
Approved: Yes	Referred back:	Approved subject to adaptations:
Chairperson Name: Chiwimbiso Kwenda		Date: 13 April 2018
Chairperson Signature: _____		
Approval Certificate/Reference: EFEC 2-2/2018		

## Appendix F: Online questionnaire responses

Timestamp	I agree with all the above mentioned statements	1.1. At which campus are you situated?	1.2. Highest qualification obtained?	1.3. How long ago did you obtain this degree?	2.1. Are you currently pursuing another degree?	2.2 If yes, please specify:
15/04/2018 15:00:38	Yes	Wellington Campus	B-degree	3-5 years ago	Yes	Hons
25/04/2018 09:57:04	Yes	Wellington Campus	Masters	5-7 years ago	Yes	I am at the final stages of
25/04/2018 11:08:04	Yes	Mowbray Campus	PhD	1-2 years ago	No	
25/04/2018 11:09:17	Yes	Mowbray Campus	Masters	More than 7 years ago	Yes	PhD
25/04/2018 12:02:59	Yes	Wellington Campus	Masters	3-5 years ago	No	
25/04/2018 13:43:23	Yes	Wellington Campus	Honors Degree	1-2 years ago	Yes	Masters
26/04/2018 09:28:43	Yes	Wellington Campus	PhD	More than 7 years ago	No	
26/04/2018 11:33:55	Yes	Wellington Campus	Masters	More than 7 years ago	No	
02/05/2018 12:06:04	Yes	Wellington Campus	PhD	More than 7 years ago	No	
02/05/2018 12:54:11	Yes	Wellington Campus	PhD	1-2 years ago	No	
02/05/2018 22:34:49	Yes	Wellington Campus	Masters	1-2 years ago	Yes	Phd
03/05/2018 11:59:43	Yes	Mowbray Campus	PhD	5-7 years ago	No	
07/05/2018 14:56:08	Yes	Wellington Campus	Masters	More than 7 years ago	Yes	Phd
08/05/2018 12:23:54	Yes	Wellington Campus	Masters	3-5 years ago	No	
09/05/2018 10:22:20	Yes	Wellington Campus	Masters	More than 7 years ago	Yes	PhD
10/05/2018 10:59:19	Yes	Mowbray Campus	Masters	3-5 years ago	Yes	PhD
10/05/2018 13:42:16	Yes	Wellington Campus	Masters	1-2 years ago	No	
13/05/2018 14:07:23	Yes	Wellington Campus	Masters	3-5 years ago	No	
16/05/2018 14:24:20	Yes	Wellington Campus	PhD	5-7 years ago	No	
21/05/2018 12:42:42	Yes	Wellington Campus	PhD	3-5 years ago	No	
22/05/2018 07:22:42	Yes	Wellington Campus	Masters	More than 7 years ago	Yes	PhD in History at Univers
29/05/2018 13:28:11	Yes	Wellington Campus	Masters	5-7 years ago	Yes	D Ed



2.3. How many papers have you presented/co-presented at National Conferences?	2.4. How many papers have you presented/co-presented papers at International Conferences?	2.5. How many journal articles have you published/co-published?	2.6. How many book chapters have you published/ co-published?	2.7. Apart from the examples listed above, have you been involved in the production of any other form of scholarly output? Please specify	3.1. I need the library's support in choosing a research topic	3.2. I need the library's support in formulating a research question
Never	Never	Never	Never	None	Disagree	Agree
3- 5 papers	1-2 papers	1- 2 articles	None	I have co-authored many	Neutral	Neutral
3- 5 papers	1-2 papers	3- 5 articles	None	Collaborative work with o	Agree	Agree
9- 10 papers	3- 5 papers	3- 5 articles	None	Developed material and n	Neutral	Neutral
None	None	None	1- 2 chapters	none	Agree	Disagree
None	None	None	None	No	Neutral	Agree
None	None	1- 2 articles	1- 2 chapters	presented seminars at Rh	Agree	Neutral
6- 8 papers	None	1- 2 articles	1- 2 chapters	No. I have parts of resear	Neutral	Agree
6- 8 papers	3- 5 papers	1- 2 articles	1- 2 chapters	No	Neutral	Neutral
3- 5 papers	3- 5 papers	1- 2 articles	1- 2 chapters	no	Agree	Neutral
1-2 papers	1-2 papers	None	None	no	Neutral	Neutral
6- 8 papers	1-2 papers	1- 2 articles	1- 2 chapters	Personal exhibitions, whid	Disagree	Disagree
1-2 papers	None	1- 2 articles	1- 2 chapters	Researcher for umalusl	Disagree	Disagree
1-2 papers	3- 5 papers	1- 2 articles	1- 2 chapters	Not that I can think of	Disagree	Neutral
More	None	9- 10 articles	1- 2 chapters	Research reports	Disagree	Disagree
6- 8 papers	1-2 papers	1- 2 articles	None	Not yet	Agree	Agree
None	None	1- 2 articles	None	No	Agree	Disagree
None	None	None	None	Article submitted to Acta	Agree	Agree
3- 5 papers	None	1- 2 articles	None	None	Neutral	Neutral
1-2 papers	None	None	3- 5 chapters	Evaluation reports on univ	Agree	Disagree
None	None	1- 2 articles	1- 2 chapters	Writing of books for Sol P	Agree	Agree
1-2 papers	1-2 papers	1- 2 articles	1- 2 chapters	No	Disagree	Disagree





5.2. I need the library's support with managing citations and references	5.3. I need the library's support in developing a data management plan	5.4. I need the library's support in managing my datasets and making them discoverable and available for future use	5.5. I need the library's support with the processes involved in obtaining ethical clearance for my research	6.1. Selecting suitable accredited journals for publishing	6.2. Identifying suitable open access journals to consider for publishing	6.3. The managing of copyright issues
Agree	Agree	Agree	Agree	I don't need the library to	The library's support with	The library's support with
Agree	Agree	Neutral	Neutral	Sometimes	Sometimes	Always
Agree	Agree	Agree	Neutral	Always	Always	Always
Agree	Agree	Agree	Agree	Sometimes	Always	Always
Agree	Agree	Agree	Disagree	Always	Always	Always
Neutral	Agree	Agree	Neutral	Always	Always	Sometimes
Agree	Neutral	Agree	Neutral	Always	Always	Always
Agree	Agree	Agree	Neutral	Sometimes	Never	Sometimes
Agree	Agree	Agree	Neutral	Sometimes	Sometimes	Sometimes
Agree	Agree	Agree	Agree	Always	Always	Always
Neutral	Neutral	Agree	Disagree	Always	Always	Sometimes
Neutral	Agree	Agree	Neutral	Sometimes	Sometimes	Sometimes
Agree	Agree	Agree	Agree	Sometimes	Sometimes	Always
Agree	Agree	Agree	Neutral	Always	Always	Sometimes
Agree	Agree	Agree	Agree	Sometimes	Always	Always
Agree	Agree	Agree	Agree	Sometimes	Sometimes	Sometimes
Disagree	Disagree	Agree	Disagree	Sometimes	Sometimes	Never
Agree	Agree	Agree	Neutral	Sometimes	Sometimes	Always
Agree	Agree	Agree	Agree	Sometimes	Sometimes	Always
Agree	Neutral	Neutral	Disagree	Always	Always	Sometimes
Agree	Agree	Agree	Neutral	Always	Always	Sometimes
Disagree	Disagree	Disagree	Disagree	Sometimes	Sometimes	Never



6.4. Depositing my work in digital repositories	6.5. The use and implications of various licenses e.g. Creative Commons Licensing.	7.1. Tracking my research impact	7.2. The use of metrics to demonstrate my research's impact	7.3. Using metrics to decide where to publish	7.4. Updating my professional information on relevant websites and platforms (for example, ResearchGate and ORCID)	7.5. Optimizing my visibility and to expand my research network
The library's support with	I sometimes need the libr	The library's support with	The library's support with	I sometimes need the libr	I sometimes need the libr	I sometimes need the libr
Always	Sometimes	Sometimes	Never	Sometimes	Always	Always
Always	Always	Always	Sometimes	Always	Always	Always
Always	Always	Always	Always	Always	Always	Always
Sometimes	Always	Sometimes	Sometimes	Sometimes	Never	Sometimes
Always	Sometimes	Always	Always	Always	Always	Always
Sometimes	Always	Sometimes	Always	Always	Always	Always
Never	Always	Always	Always	Always	Sometimes	Sometimes
Always	Always	Always	Sometimes	Sometimes	Sometimes	Sometimes
Always	Always	Always	Always	Always	Always	Always
Sometimes	Sometimes	Never	Never	Sometimes	Always	Always
Always	Sometimes	Always	Always	Always	Always	Sometimes
Sometimes	Always	Always	Always	Always	Always	Always
Always	Sometimes	Always	Always	Always	Always	Always
Always	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Always	Always	Never	Never	Never	Never	Never
Always	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Always	Always	Sometimes	Always	Always	Always	Always
Sometimes	Sometimes	Sometimes	Always	Always	Sometimes	Always
Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Sometimes
Never	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes



8.8. The library needs to develop services that will assist researchers with intellectual property and copyright issues.	8.9. The library needs to improve the assistance it provides to researchers in the development of a data management plan.	8.10. The library needs to improve on their assistance to researchers in selecting suitable journals for publishing.	8.11. The library needs to improve their assistance to researchers in the use of metrics for measuring research impact.	8.12. The library needs to improve on services that regularly update researchers' professional information on all relevant academic platforms.	8.13. The library needs to expand their assistance to researchers when it comes to optimizing their visibility and expanding their research networks.	8.14. The library needs to improve the assistance provided to researchers in depositing research outputs to digital repositories.
2	2	2	2	2	2	2
2		1	1		2	2
1		2	1	2	1	2
2		2	2	2	1	1
1		1	1	2	2	1
2		2	2		3	3
2		2	1		1	2
1		1	1		2	2
2		2	2		2	2
1		1	1		1	1
1		1	1		1	1
2		2	2		2	2
1		1	2		1	1
1		1	1		1	1
2		2	2		2	2
1		1	1		1	1
1		1	2		1	1
2		2	2		2	2
1		1	1		1	1
1		1	1		1	1
2		2	2		2	2
1		1	1		1	1
1		1	1		1	1
3		3	2		2	2
1		1	2		2	2
2		3	2		3	3



8.15. The library needs to improve services related to the management of citations and references.	8.16. Are their any further comments or suggestions that you would like to add?	9. What are the most significant challenges that you experience during the research process?	10. Do you have any further recommendations for the library to improve on the research support services offered.
2	None	Funding	None
2		Finding various sources for the literature chapter and writing it up. (The library staff were fantastic in their assistance in this matter).	
2	None	Gathering information and funding	None
1		Accessing certain journal articles and referencing	
1		Time - to find time available in my work load	
2		Gathering Literature	
2	No	Getting enough valid information, not enough books available on some topics.	Some fields not really covered, esp in connection with new books on certain topics. Have to rely on overseas bookshops to find certain information.
1		managing my time and pursuing research/asking questions that can make a real impact in meeting the needs of our education students	No. I'm probably underutilizing the library and its current resources
2	No	Getting access to the latest research articles	No
1	no	Identifying the most suitable methodology	Keep up the good work, Wellington librarians helped me identify and access the most relevant literature for my PhD research
2			
2	No thank you	Finalising a paper, making punctuation etc changes, finding a journal.	No thank you.
2		Citation of older sources	None
2		Getting to, and writing the essence - there is so MUCH available, it is difficult to distill	
1		accessing books that are not in local libraries	
1		Finding current literature addressing current issues	
2	The staff at Wellington campus library are helpful in any and all queries.	Time management	No
1		How to maximize utilisation of electronic resources in library	
1	None	Finding a research topic	No
2		Having a librarian assigned and dedicated to you or the project.	Develop a space dedicated to post grad students like a research commons
2	No	Data collection and funding for research.	No
3	No	Time Management	No